

California Regional Water Quality Control Board



Linda S. Adams
Secretary for
Environmental Protection

Lahontan Region

14440 Civic Dr, Suite 200
Victorville, CA 92392
Phone (760) 241-6583 • Fax (760) 241-7308
<http://www.waterboards.ca.gov/Lahontan/>



Arnold Schwarzenegger
Governor

BLACK ROCK FISH HATCHERY
ORDER NO. R6V-2006-0031
NPDES NO. CA0102792
WDID NO. 6B14080003

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Discharger	California Department of Fish and Game
Name of Facility	Black Rock Fish Hatchery
Facility Address	1 East Black Rock Springs Road
	Independence, CA 93526
	Inyo County

The Discharger is authorized to discharge from the following discharge points as set forth below:

Discharge Point	Effluent Description	Discharge Point Latitude*	Discharge Point Longitude*	Receiving Water
001	Fish Hatchery Wastewater	36 °, 55', 35" N	118 °, 13', 42" W	Los Angeles Aqueduct

* (WGS84/NAD83)

This Order was adopted by the Regional Water Board on:	June 14, 2006
This Order shall become effective on:	June 15, 2006
This Order shall expire on:	June 15, 2011
The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Water Board have classified this discharge as a minor discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration date as application for renewal or issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order No. 6-99-53 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

This Order shall become the NPDES Permit, pursuant to Section 402 of the Federal Clean Water Act and amendments thereto, and shall take effect on June 15, 2006, provided the USEPA Regional Administer has no objections.

I, Harold J. Singer, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on June 15, 2006.

“Original Signed By”
Harold J. Singer, Executive Officer

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 REGION 6, LAHONTAN REGION**

ORDER NO. R6V-2006-PROPOSED
 NPDES NO. CA0102792

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I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Discharger	California Department of Fish and Game
Name of Facility	Black Rock Fish Hatchery
Facility Address	1 East Black Rock Springs Road
	Independence, CA 93526
	Inyo County
Facility Contact, Title, and Phone	Marvin D. Waters, Hatchery Manager, (760) 878-2272
Mailing Address	1 Golden Trout Circle Independence, CA 93526
Type of Facility	Concentrated Aquatic Animal Production / Fish Hatchery
Facility Design Flow	Not Applicable

II. FINDINGS

The California Regional Water Quality Control Board, Lahontan Region (hereinafter Regional Water Board), finds:

- A. **Background.** The California Department of Fish and Game (hereinafter Discharger) is currently discharging treated wastewater from the Black Rock Fish Hatchery, hereinafter Facility under Order No. 6-99-53 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0102792. The Discharger submitted a Report of Waste Discharge, dated October 31, 2004, and applied for NPDES permit renewal. The facility was allowed to continue to discharge under the existing permit until the adoption of a new permit.
- B. **Facility Description.** The Discharger owns and operates a fish hatchery, which is located on land owned by the City of Los Angeles Department of Water and Power. The facility is a concentrated aquatic animal production facility that consists of two water supply wells, a fish egg incubation building, four 500-foot long production “raceways”, a flow-through fish rearing pond, two flow-through settling ponds, and miscellaneous operation and maintenance structures. The water supply for the facility is obtained from two onsite water supply wells and from Division Creek. The wastewater treatment system consists of two wetland-settling ponds. A small volume of wastewater is used onsite for irrigation. Up to 12.3 million gallons per day of treated wastewater is discharged from Discharge Point 001 (see table on cover page) to the Los Angeles Aqueduct, a water of the United States and a tributary to the Haiwee Reservoir within the Owens watershed. The facility is located approximately nine miles north of the Community of Independence, Inyo County, within Sections 2 and 11, T12S, R34E, MDB&M. Attachment B provides a topographic map of the area around the facility. Attachment C provides a wastewater flow schematic of the facility.
- C. **Legal Authorities.** This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA), 33 United States Code (USC) 1342, and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). Special NPDES Requirements for concentrated aquatic animal production facilities are regulated by Code of Federal Regulations (CFR) at 40 CFR §122.24. This order shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.
- D. **Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and through special studies. Attachments A through L, which contain background information and rationale for Order requirements, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.
- E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

- F. Technology-based Effluent Limitations.** The Code of Federal Regulations (CFR) at 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Effluent Limitations Guidelines and Standards for the Aquatic Animal Production Industry Category in 40 CFR 451 and Best Professional Judgment (BPJ) in accordance with 40 CFR §125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. Water Quality-based Effluent Limitations.** Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.
- H. Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Lahontan Region (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan at page 2-3 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan does not specifically identify beneficial uses for the Los Angeles Aqueduct, but does identify present and potential uses for Haiwee Reservoir, to which the Los Angeles Aqueduct is tributary. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, beneficial uses applicable to the Los Angeles Aqueduct and to the Owens Valley Ground Water Basin are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	L.A. Aqueduct/ Haiwee Reservoir	<u>Existing:</u> Municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), contact (REC-1) and non-contact (REC-2) water recreation, commercial and sport fishing (COMM), cold freshwater habitat (COLD), wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), and spawning, reproduction, and development of fish and wildlife (SPWN).
--	Owens Valley Ground Water Basin	Municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), freshwater replenishment (FRSH), and wildlife habitat (WILD).

The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

- I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.
- J. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so.
- K. **Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where permitted by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules and interim effluent limitations or discharge specifications.
- L. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F) the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.
- M. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

- N. **Monitoring and Reporting.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- O. **Standard and Special Provisions.** Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).
- P. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F) of this Order.
- Q. **Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F) of this Order.

III. DISCHARGE PROHIBITIONS

- A. The discharge of waste^a which causes violation of any narrative water quality objective contained in the Basin Plan is prohibited.
- B. The discharge of waste which causes violation of any numeric water quality objective contained in the Basin Plan is prohibited.
- C. Where any numeric or narrative water quality objective contained in the Basin Plan is already being violated, the discharge of waste which causes further degradation or pollution is prohibited.
- D. The discharge of untreated sewage, garbage, or other solid wastes, or industrial wastes into surface waters of the Region is prohibited.
- E. The discharge of hatchery wastewater except to the authorized discharge point (Discharge Point 001) is prohibited.
- F. There shall be no discharge, bypass, or diversion of hatchery wastewater from the transport or treatment facilities to surface waters other than that authorized by this Order.

^a "Waste" is defined to include any waste or deleterious material including, but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock, or other organic or mineral material) and any other waste as defined in the California Water Code § 13050(d).

- G. The discharge shall not cause a pollution as defined in Section 13050 of the California Water Code, or a threatened pollution.
- H. Neither the treatment nor the discharge shall cause a nuisance as defined in Section 13050 of the California Water Code.
- I. The discharge shall not cause a violation of any applicable water quality standards for receiving water adopted by the Regional Water Board or the State Water Resources Control Board (SWRCB).
 - 1. The discharge of any therapeutic or pharmaceutical aquaculture drug or chemical resulting in toxicity in receiving waters is prohibited.
 - 2. The discharge of any pesticides resulting in detectable concentrations in receiving waters is prohibited.
- J. The use of any aquaculture drug or chemical not authorized for discharge in Section VI.C.2.a of this Order, which may be potentially discharged to waters of the United States or of the State, is prohibited. Modifications to the authorized discharge of aquaculture drugs and chemicals at the Facility may be allowed by the Regional Water Board as specified in Section VI.C.2.a of this Order.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

- a. The discharge of fish hatchery wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001 as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	5.5	11.1	--	--
Diquat	µg/L	20	40.1	--	--
Fluridone	µg/L	560	1,123	--	--
Formaldehyde	mg/L	0.65	1.3	--	--
Glyphosate	µg/L	700	1,404	--	--
pH	standard units	--	--	6.0	9.0
Settleable Solids	ml/L	0.1	--	--	--
Total Suspended Solids (TSS) ^a	mg/L	6.0	--	--	15.0

^a Limit is 6.0 mg/L net over levels in influent

- b. The discharge shall not contain trace elements, pollutants, contaminants, or combinations thereof, in concentrations which are toxic or harmful to human, aquatic, terrestrial plant, or animal life.

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications

The discharger is allowed to use wastewater from this Facility for onsite irrigation as long as the discharge is not found to cause a pollution or nuisance.

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. This discharge shall not cause a violation of any applicable WQOs as set forth in the Basin Plan for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Regional Board will revise and modify this Order in accordance with such more stringent standards.
2. The following receiving water limitations are based on water quality objectives contained in the Basin Plan which apply to all surface waters (including wetlands) within the Lahontan Region and are a required part of this Order. The discharge of fish hatchery wastewater shall not cause an exceedance of any of the following:
 - a. **Ammonia:** Ammonia concentrations shall not exceed the values listed for the corresponding conditions in Tables 3-1 and 3-3 contained in Attachment G of this Order. For temperature and pH values not explicitly in these tables, the most conservative value neighboring the actual value may be used or criteria can be calculated from numerical formulas available on page 3-4 of the Basin Plan.
 - b. **Bacteria, Coliform:** Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes. The fecal coliform concentration during any 30-day period shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40/100 ml.
 - c. **Biostimulatory Substances:** Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.
 - d. **Chemical Constituents:** Waters shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in the provisions of Title 22 of the California Code of Regulations. Waters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes).

- e. **Chlorine, Total Residual:** For the protection of aquatic life, total chlorine residual shall not exceed either a median value of 0.002 mg/L or a maximum value of 0.003 mg/L. Median values shall be based on daily measurements taken within any six-month period.
- f. **Color:** Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses.
- g. **Dissolved Oxygen:** The dissolved oxygen concentration, as percent saturation, shall not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration be less than 80 percent of saturation. The minimum dissolved oxygen concentration shall not be less than that specified for “COLD with SPWN” beneficial use class in Table 3-6 in Attachment G of this Order. The most restrictive of the aforementioned limitations shall apply.
- h. **Floating Materials:** Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses. The concentrations of floating material shall not be altered to the extent that such alterations are discernable at the 10 percent significance level.
- i. **Nondegradation of Aquatic Communities and Populations:** All wetlands shall be free from substances attributable to wastewater or other discharges that produce adverse physiological responses in humans, animals, or plants; or which lead to the presence of undesirable or nuisance aquatic life. All wetlands shall be free from activities that would substantially impair the biological community as it naturally occurs due to physical, chemical and hydrologic processes.
- j. **Oil and Grease:** Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect the water for beneficial uses. The concentration of oils, greases, or other film or coat generating substances shall not be altered.
- k. **Pesticides:** For the purposes of this Order, pesticides are defined to include insecticides, herbicides, rodenticides, fungicides, piscicides and all other economic poisons. An economic poison is any substance intended to prevent, repel, destroy, or mitigate the damage from insects, rodents, predatory animals, bacteria, fungi or weeds capable of infesting or harming vegetation, humans, or animals (CA Agriculture Code § 12753). Pesticide concentrations, individually or collectively, shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall not be an increase in pesticide concentrations found in bottom sediments. There shall be no detectable increase in bioaccumulation of pesticides in aquatic life.
- l. **pH:** Changes in normal ambient pH levels shall not exceed 0.5 pH units, nor shall the effluent contribute to the ambient pH exceeding the range between 6.5 and 8.5, whichever is more restrictive.

- m. **Radioactivity:** Radionuclides shall not be present in concentrations which are deleterious to human, plant, animal, or aquatic life nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life. Waters shall not contain concentrations of radionuclides in excess of the limits specified in Title 22 of the California Code of Regulations.
 - n. **Sediment:** The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses.
 - o. **Settleable Materials:** Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. The concentration of settleable materials shall not be raised by more than 0.1 milliliter per liter.
 - p. **Suspended Materials:** Waters shall not contain suspended materials in concentrations that cause nuisance or that adversely affects the water for beneficial uses.
 - q. **Taste and Odor:** Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses. The taste and odor of waters shall not be altered.
 - r. **Temperature:** The natural receiving water temperature shall not be altered.
 - s. **Toxicity:** Waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for “experimental water” as defined in Standard Methods for the Examination of Water and Wastewater (American Public Health Association, et al. 1992).
 - t. **Turbidity:** Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.
3. To protect the beneficial use of municipal and domestic supply (MUN) of the receiving water, the discharge of fish hatchery wastewater shall not cause an exceedance of the following (with compliance measured at Monitoring Location R-001D as described in the attached Monitoring and Reporting Program (Attachment E)):
- a. The formaldehyde concentration in the receiving water shall not exceed 0.1 mg/L.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions

The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. Regional Water Board Standard Provisions

The California Water Code provides that any person who violates a waste discharge requirement (same as permit condition), or a provision of the California Water Code, is subject to civil penalties of up to \$1,000 per day or \$10,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$20 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

Violations of any of the provisions of the NPDES program, or of any of the provisions of this permit, may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

B. Monitoring and Reporting Program Requirements

The discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

- a. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
- b. If toxicity testing, or information specified below in Section VI.C.2 of this Order, or the drug and chemical use reporting required in the Monitoring and Reporting Program (Attachment E) indicates that any drug or chemical is, or may be, discharged at a level that will cause, have the reasonable potential to cause, or contribute to an in stream excursion above any chemical-specific water quality criteria or objective, narrative water quality objective for chemical constituents from the Basin Plan, or narrative water quality objective for toxicity from the Basin Plan, this Order may be reopened to establish effluent limitations.

- c. Toxicity testing requirements, as specified in Section VI.C.2. of this Order, are based on exposure times of 48 or 96 hours. If the Discharger provides sufficient justification that shorter exposure times are a closer approximation of actual exposure times, then this Order may be reopened to account for shorter exposure times.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. New Aquaculture Drug or Chemical Use

Attachment I of this Order list all aquaculture drugs and chemicals that may potentially be used at the Facility, as well as expected application methods and dosages. This Order authorizes the discharge through Discharge Point 001 of the following aquaculture drugs and chemicals to Los Angeles Aqueduct in accordance with the effluent limitations and other conditions herein:

- Acetic acid
- Amoxicillin trihydrate
- Carbon dioxide
- Chloramine-T^a
- Copper sulfate pentahydrate
- Erythromycin
- Florfenicol (Nuflor®)
- Formalin (37% formaldehyde solution)
- Hydrogen peroxide
- Isoeugenol (Aqui-S®)
- MS-222 / tricaine methanesulfonate (Finquel®, Tricaine-S®)
- Oxytetracycline HCl (Terramycin®)
- Penicillin G potassium
- Potassium permanganate (Cairox™)
- PVP Iodine
- Sodium bicarbonate
- Sodium chloride (salt)
- Sulfadimethoxine-ormetoprim (Romet-30®)

The Discharger shall submit to the Regional Water Board in writing the following information prior to the use of any new aquaculture drug or chemical not listed above that may enter the wastewater discharge:

- 1) The common name(s) and active ingredient(s) of the drug or chemical proposed for use and discharge.
- 2) The purpose for the proposed use of the drug or chemical (i.e. list the specific disease for treatment and specific species for treatment).
- 3) The amount proposed for use or disposal, and the resulting calculated estimate of concentration in the discharge. Calculations used to derive estimated concentrations must also be submitted.

^a This Order prohibits Chloramine-T treatments in more than 2 raceways per day.

- 4) The location, duration and frequency of the proposed use or disposal.
- 5) Material Safety Data Sheets and available toxicity information.
- 6) Any related Investigational New Animal Drug (INAD), New Animal Drug Application (NADA) information, extra-label use requirements and/or veterinarian prescriptions.

Prior to discharging the aquaculture drug or chemical, the Discharger shall also submit to the Regional Water Board either (1) sufficient NOAEL, LOAEL, NOEC and IC₂₅ values from existing toxicity studies suitable to determine reasonable potential or (2) the Discharger shall conduct and submit the results of short term toxicity studies in accordance with methods specified in EPA-821-R-02-012, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002*, using *C. dubia*, to determine the NOAEL, and LOAEL. Where exposure of aquatic life to the aquaculture drug or chemical may be long-term or continuous, the Discharger also shall conduct and submit the results of chronic toxicity testing in accordance with EPA/21-R-02-013, *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002*, using *C. dubia*, to determine the NOEC or IC₂₅.

b. Aquaculture Drug and Chemical Toxicity Studies

Within 12 months of adoption of this Order, for the aquaculture drugs and chemicals listed below, the Discharger shall submit to the Regional Water Board either (1) sufficient NOAEL, LOAEL, NOEC and IC₂₅ values from existing toxicity studies suitable to determine reasonable potential or (2) the Discharger shall conduct and submit the results of short term toxicity studies in accordance with methods specified in EPA-821-R-02-012, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002*, using *C. dubia*, to determine the NOAEL and LOAEL at reflective concentrations and potential exposure times that are applicable to this facility. Where exposure of aquatic life to the aquaculture drug or chemical may be long-term or continuous, the Discharger also shall conduct and submit the results of chronic toxicity testing in accordance with EPA/21-R-02-013, *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002*, using *C. dubia*, to determine the NOEC or IC₂₅.

- Chloramine-T
- Hydrogen peroxide
- Isoeugenol (Aqui-S®)
- MS-222 / tricaine methanesulfonate (Fiquel®, Tricaine-S®)
- Oxytetracycline HCl (Terramycin®)
- Penicillin G potassium
- Potassium permanganate (Cairox™)
- PVP Iodine

The Regional Water Board will review this information and this permit may be reopened to establish effluent limitations based on additional use and toxicity information.

c. Reporting of Unanticipated Discharges

- 1) The Discharger shall provide to the Regional Water Board an oral report within 24 hours of discovery, the failure in, or damage to, the structure of an aquatic animal containment system resulting in an unanticipated material discharge of pollutants to waters of the United States or State. The Discharger must describe the cause of the failure or damage in the containment system and identifying materials that have been released to the environment as a result of this failure.

The Discharger must provide a written report within 7 days of discovery of the failure or damage documenting the cause, the estimated time elapsed until the failure or damage was repaired, an estimate of the material released as a result of the failure or damage, and steps being taken to prevent a reoccurrence.

- 2) In the event a spill of drugs, pesticides or feed occurs that results in a discharge to waters of the United States or State, the Discharger must provide an oral report of the spill to the Regional Water Board within 24 hours of its occurrence and a written report within 7 days. The report shall include the identity and quantity of the material spilled.

d. Aquatic Pesticide Use

This Order authorizes the discharge through Discharge Point 001 of the following aquatic pesticides and ingredients, to the Los Angeles Aqueduct in accordance with the effluent limitations and other conditions herein:

Product Name	Ingredients
Reward®	Diquat dibromide
AquaMaster™	Isopropylamine salt of glyphosate
Sonar™	Fluridone
	Propylene glycol
Renovate3®	Triclopyr
	Ethanol
	Triethylamine
	Ethylenediaminetetra acetic acid (EDTA)

Aquatic pesticide use requirements in this Order include the following:

- 1) The applicator must follow all pesticide label instructions and any Use Permits issued by a County Agricultural Commissioners (CACs).
- 2) The applicator must be licensed by the Department of Pesticide Regulation (DPR) or work under the supervision of someone who is licensed if the aquatic pesticide is considered a restricted material.

The Discharger shall submit to the Regional Water Board in writing the following information prior to the use of any other aquatic pesticide not listed in the table above that may enter the wastewater discharge:

- 1) The common name(s) and ingredient(s) of the aquatic pesticide proposed for use and discharge.
- 2) The purpose for the proposed use of the aquatic pesticide (i.e. list the target weed(s) for treatment).
- 3) The amount proposed for use or disposal, and the resulting calculated estimate of concentration in the discharge. Calculations used to derive estimated concentrations must also be submitted.
- 4) The location, duration and frequency of the proposed use or disposal.
- 5) Material Safety Data Sheets and available toxicity information.

Prior to discharging the aquatic pesticide, the Discharger shall also submit to the Regional Water Board either (1) sufficient NOAEL, LOAEL, NOEC and IC₂₅ values from existing toxicity studies suitable to determine reasonable potential or (2) the Discharger shall conduct and submit the results of short term toxicity studies in accordance with methods specified in EPA-821-R-02-012, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002*, using *C. dubia*, to determine the NOAEL and LOAEL. Where exposure of aquatic life to the aquatic pesticide may be long-term or continuous, the Discharger also shall conduct and/or submit the results of chronic toxicity testing in accordance with EPA/21-R-02-013, *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002*, using *C. dubia*, to determine the NOEC or IC₂₅.

e. **Aquatic Pesticide Toxicity Studies**

Within 12 months of adoption of this Order, the Discharger shall submit to the Regional Water Board either (1) sufficient NOAEL, LOAEL, NOEC and IC₂₅ values from existing toxicity studies suitable to determine reasonable potential or (2) the Discharger shall conduct and submit the results of short term toxicity studies in accordance with methods specified in EPA-821-R-02-012, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002*, using *C. dubia*, to determine the NOAEL and LOAEL. Where exposure of aquatic life to the aquatic pesticide may be long-term or continuous, the Discharger also shall conduct and/or submit the results of chronic toxicity testing in accordance with EPA/21-R-02-013, *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002*, using *C. dubia*, to determine the NOEC or IC₂₅ for the following pesticide ingredients at reflective concentrations and exposure times that are applicable to this facility:

Chemical	Pesticide Brand Ingredient
Propylene glycol	Sonar™
Triclopyr	Renovate3®
Ethanol	
Triethylamine	
Ethylenediaminetetra acetic acid (EDTA)	

The Regional Water Board will review this information and this permit may be reopened to establish effluent limitations based on additional use and toxicity information.

3. Best Management Practices and Pollution Prevention

a. Best Management Practices Plan

Within 12 months of adoption of this Order, the Discharger shall certify in writing to the Regional Water Board that it has developed a Best Management Practices (BMP) plan. The Discharger shall develop and implement the BMP plan to prevent or minimize the generation and discharge of wastes and pollutants to the waters of the United States and waters of the State. The Discharger shall develop and implement a BMP plan consistent with the following objectives:

1) Solids Management

- a. Conduct fish feeding in aquaculture ponds in a manner that limits feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth and minimizes the discharge of unconsumed food and waste products to surface waters.
- b. Clean aquaculture ponds using procedures and at frequencies that minimize the disturbance and subsequent discharge of accumulated solids during routine activities such as inventorying, grading, and harvesting.
- c. Report the final disposition of all other solids and liquids, including aquaculture drugs and chemicals, not discharged to surface waters in the effluent.
- d. Collect, store, and dispose of fish mortalities and other solids in an environmentally safe manner and in manner so as to minimize discharge to waters of the United States or waters of the State.

2) Operations and Maintenance

- a. Maintain in-system production and wastewater treatment technologies to prevent the overflow of any floating matter or bypassing of treatment technologies.
- b. Inspect the production system and the wastewater treatment system on a routine basis in order to identify and promptly repair any damage.
- c. Ensure storage and containment of drugs, chemicals, fuel, waste oil, or other materials to prevent spillage or release into the aquatic animal production Facility, waters of the United States, or waters of the State.

- d. Implement procedures for properly containing, cleaning, and disposing of any spilled material.
 - e. Prevent fish from being released within the FDA-required withdrawal time of any drug or chemical with which they have been treated.
- 3) Record Keeping
- a. Maintain records for aquatic animal rearing units documenting the feed amounts and estimates of the numbers and weight of aquatic animals in order to calculate representative feed conversion ratios.
 - b. Keep records documenting the frequency of cleaning, inspections, maintenance and repairs.
- 4) Training
- a. Adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill in order to ensure the proper clean-up and disposal of spilled material.
 - b. Train staff on the proper operation and cleaning of production and wastewater treatment systems, including training in feeding procedures and proper use of equipment.
 - c. The Discharger shall ensure that its operations staff are familiar with the BMP Plan and have been adequately trained in the specific procedures it requires.

b. Aquatic Pesticides Application Plan (APAP).

Within 12 months of adoption of this Order, the Discharger shall develop and submit to the Regional Water Board, an APAP that contains the following elements:

- 1) Description of what weed(s) are being are being controlled and why;
- 2) Discussion of control tolerances (i.e., how much growth can occur before action is necessary);
- 3) Discussion of the factors influencing the decision to use aquatic pesticides in regards to those tolerances (pros and cons);
- 4) Type(s) of aquatic pesticides used^b, the method in which they are applied, and the adjuvants used;
- 5) Description of the application area and the treatment area in the system;
- 6) Other control methods used (alternatives) and what their limitations are;
- 7) How much product is needed and how this is determined;
- 8) Description of the BMPs to be implemented; and
- 9) Evaluation of other available BMPs to determine feasible alternatives to the selected aquatic pesticide application project that could reduce potential water quality impacts.

^b List the types and names of aquatic pesticides used or anticipated to be used. If additional or alternative pesticides are used during the year, an amended APAP must be submitted to the Regional Water Board along with a summary of changes.

4. Compliance Schedules – Not Applicable

5. Construction, Operation and Maintenance Specifications

- a. Collected screenings, sludges, and other solids, including fish carcasses, shall be disposed of in a manner approved by the Executive Officer and consistent *with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.
- b. All aquaculture drugs and chemicals not discharged to receiving waters in accordance with the provisions of this Order shall be disposed of in an environmentally safe manner, according to label guidelines, Material Safety Data Sheet guidelines and the Discharger's BMP Plan (see Section VI.C.3 of this Order). Any other form of disposal requires approval from the Executive Officer. For all aquaculture drugs and chemicals not authorized for discharge to receiving waters, the disposal onto permeable ground, or in any manner or in quantities that may result in a discharge to surface water or to ground water, is prohibited (see also Section III, Discharge Prohibitions).
- c. All facilities used for transport, and treatment of hatchery wastewater shall be adequately protected against either structural damage or signification reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.
- d. The vertical distance between the water surface elevation and the lowest point of a pond dike or the invert of an overflow structure shall not be less than 1.5 feet (0.46 M).
- e. Chloramine-T shall not be used in more than two raceways per day.

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. Limitation Bases

1. Average Monthly Effluent Limitation (AMEL)

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the discharger will be considered out of compliance for that

calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

2. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

3. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

4. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

B. Priority Pollutants

The Regional Water Board may consider priority pollutants in intake water on a pollutant-by-pollutant and discharge-by-discharge basis when establishing and enforcing water quality-based effluent limitations, provided that the discharger has demonstrated to the satisfaction of the Regional Water Board that the conditions outlined in section 1.4.4 of SIP are met.

ATTACHMENT A – DEFINITIONS, ACRONYMS & ABBREVIATIONS

DEFINITIONS

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Inhibition Concentration (IC₂₅): A point estimate of the toxicant concentration that would cause a 25 percent reduction in a nonlethal biological measurement of the test organisms (e.g., reproduction, growth).

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Lowest Observed Adverse Effect Level (LOAEL): The lowest level of a stressor that causes statistically and biologically significant differences in test samples as compared to other samples subjected to no stressor. The term is used in this Order when referring to acute toxicity testing.

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

No Observed Adverse Effect Level (NOAEL): an exposure level at which there are no statistically or biologically significant increases in the frequency or severity of adverse effects between the exposed population and its appropriate control; some effects may be produced at this level, but they are not considered as adverse. This term is used in this Order when referring to acute toxicity testing.

No Observed Effect Concentration (NOEC): The highest measured concentration of an effluent or a toxicant that causes no statistically significant observed effect on exposed organisms compared with control organisms. The term is used in this Order when referring to chronic toxicity testing.

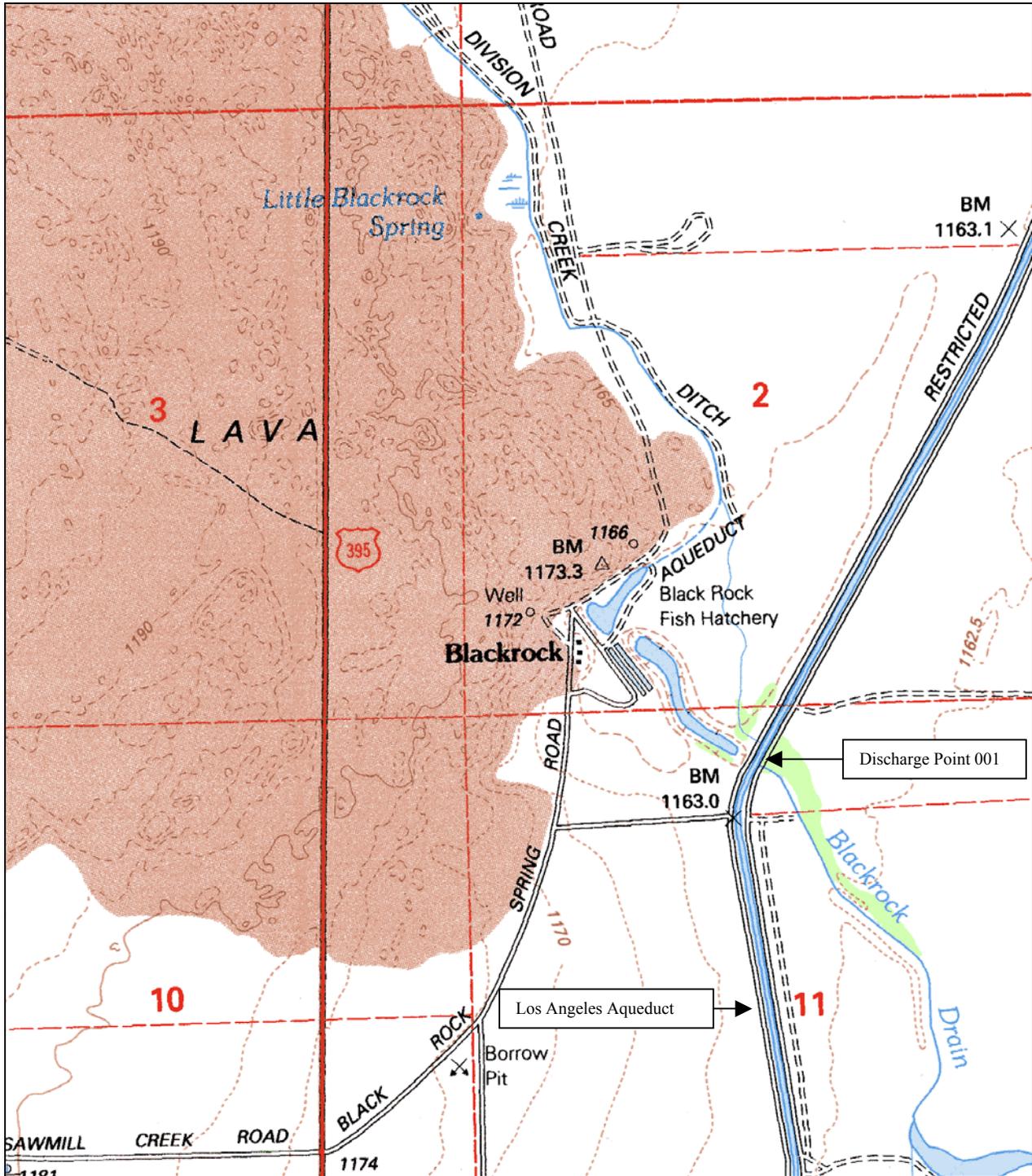
Maximum Daily Effluent Limitation (MDEL): The highest allowable daily discharge of a pollutant.

ACRONYMS & ABBREVIATIONS

AMEL	Average Monthly Effluent Limitation
APAP	Aquatic Pesticides Application Plan
B	Background Concentration
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BPJ	Best Professional Judgment
BOD	Biochemical Oxygen Demand
BPT	Best practicable treatment control technology
C	Water Quality Objective
CAAP	Concentrated Aquatic Animal Production
CAC	County Agricultural Commissioners (CACs)
CCC	Criterion Continuous Concentration
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CFS	Cubic Feet Per Second
CMC	Criterion Maximum Concentration
CTR	California Toxics Rule
CV	Coefficient of Variation
CVM	Center for Veterinary Medicine
CWA	Clean Water Act
CWC	California Water Code
DFG	Department of Fish and Game
DHS	State of California Department of Health Services
DMR	Discharge Monitoring Report
DPR	Department of Pesticide Regulation
ECA	Effluent Concentration Allowance
ELAP	California Department of Health Services Environmental Laboratory Accreditation Program
ELG	Effluent Limitations, Guidelines and Standards
FDA	United States Food and Drug Administration
GPD	Gallons Per Day
IC ₂₅	Inhibition Concentration (25%)
INAD	Investigational New Animal Drug
IRIS	Integrated Risk Information System
LA	Load Allocations
LC ₅₀	Lethal Concentration (50%)
LOAEL	Lowest Observed Adverse Effect Level
LOEC	Lowest Observed Effect Concentration
LRP	Low Regulatory Priority
LTA	Long-Term Average
MCL	Maximum Contaminant Level
MDEL	Maximum Daily Effluent Limitation
MDL	Method Detection Limit

MEC	Maximum Observed Effluent Concentration
MGD	Million Gallons Per Day
mg/L	Milligrams Per Liter
ML	Minimum Level
MRP	Monitoring and Reporting Program
NADA	New Animal Drug Application
ND	Not Detected
NOAEL	No Observed Adverse Effect Level
NOEC	No Observable Effect Concentration
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NTR	National Toxics Rule
POTW	Publicly-Owned Treatment Works
PPM	Parts Per Million
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
RPA	Reasonable Potential Analysis
RWQCB	Regional Water Quality Control Board
SIP	State Implementation Policy (<i>Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California</i>)
SMCL	Secondary Maximum Contaminant Level
SMR	Self Monitoring Report
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TSD	Technical Support Document for Water Quality-based Toxics Control
TSS	Total Suspended Solid
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WDR	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WLA	Waste Load Allocations
WQBEL	Water Quality-Based Effluent Limitation
WQO	Water Quality Objectives
$\mu\text{g/L}$	Micrograms Per Liter
$\mu\text{mhos/cm}$	Micromhos Per Centimeter

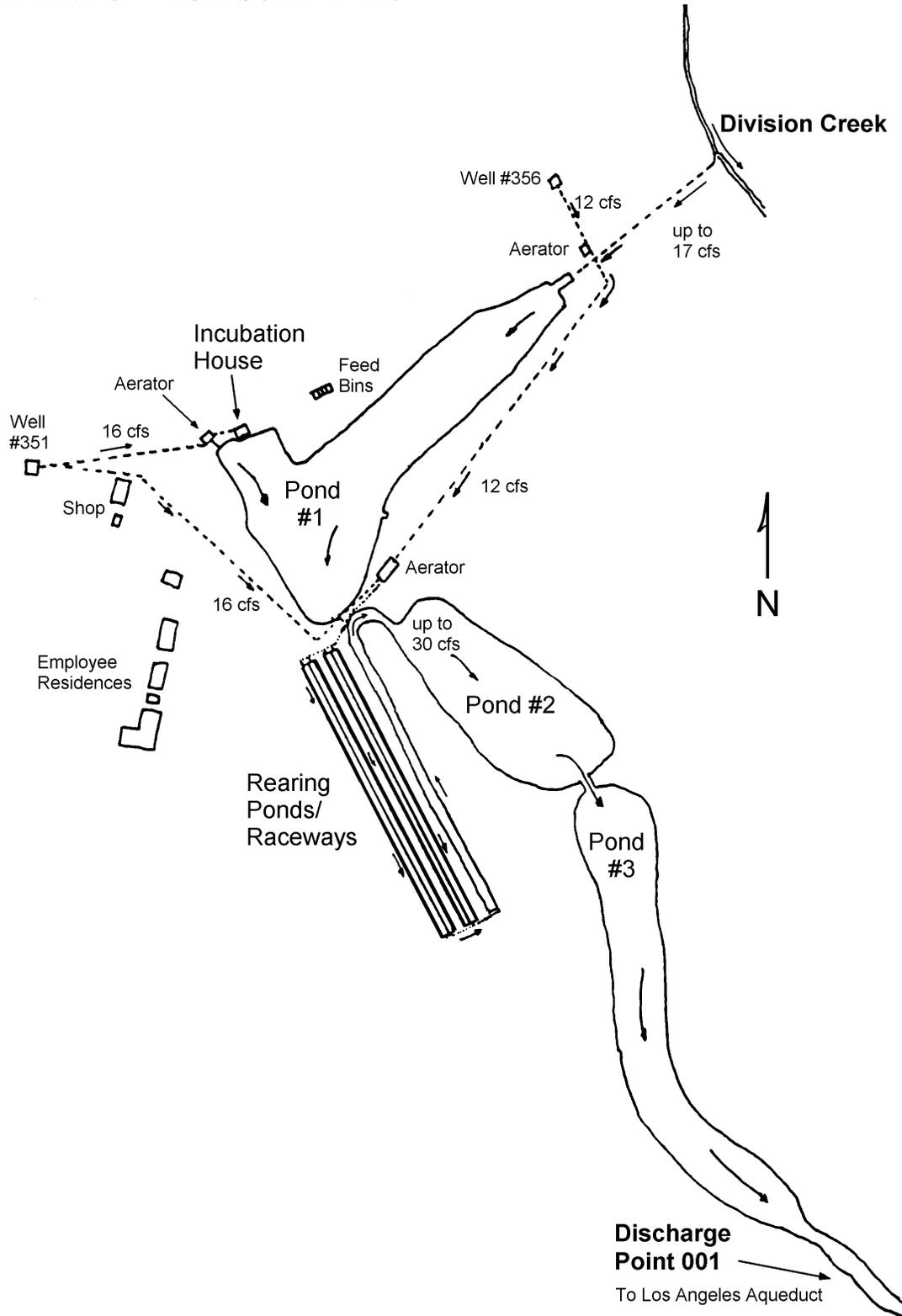
ATTACHMENT B – TOPOGRAPHIC MAP



Black Rock Fish Hatchery
1 East Black Rock Springs Road
Independence, CA 93526
Inyo County

Latitude: 36° 55' 43" N
Longitude: 118° 13' 54" W
Portions of Sections 2 and 11, T12S, R34E, MDB&M
USGS Black Rock 7.5 Minute Quadrangle

ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [40 CFR §122.41(a)].
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [40 CFR §122.41(a)(1)].

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order [40 CFR §122.41(c)].

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment [40 CFR §122.41(d)].

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [40 CFR §122.41(e)].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [40 CFR §122.41(g)].

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [*40 CFR §122.5(c)*].

F. Inspection and Entry

The Discharger shall allow the Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [*40 CFR §122.41(i)*] [*CWC 13383(c)*]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [*40 CFR §122.41(i)(1)*];
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [*40 CFR §122.41(i)(2)*];
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [*40 CFR §122.41(i)(3)*];
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [*40 CFR §122.41(i)(4)*].

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [*40 CFR §122.41(m)(1)(i)*].
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [*40 CFR §122.41(m)(1)(ii)*].
2. Bypass not exceeding limitations – The Discharger may allow a bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 and I.G.5 below [*40 CFR §122.41(m)(2)*].
3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [*40 CFR §122.41(m)(4)(i)*]:

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [40 CFR §122.41(m)(4)(A)] ;
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [40 CFR §122.41(m)(4)(B)]; and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [40 CFR §122.41(m)(4)(C)].
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [40 CFR §122.41(m)(4)(ii)].
5. Notice
- a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [40 CFR §122.41(m)(3)(i)].
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [40 CFR §122.41(m)(3)(ii)].

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [40 CFR §122.41(n)(1)].

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph H.2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [40 CFR §122.41(n)(2)].
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [40 CFR §122.41(n)(3)]:
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset [40 CFR §122.41(n)(3)(i)];

- b. The permitted facility was, at the time, being properly operated [40 CFR §122.41(n)(3)(i)];
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [40 CFR §122.41(n)(3)(iii)]; and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [40 CFR §122.41(n)(3)(iv)].
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [40 CFR §122.41(n)(4)].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition [40 CFR §122.41(f)].

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [40 CFR §122.41(b)].

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC [40 CFR §122.41(l)(3)] [40 CFR §122.61].

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR §122.41(j)(1)].
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)].

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [40 CFR §122.41(j)(2)].

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [40 CFR §122.41(j)(3)(i)];
2. The individual(s) who performed the sampling or measurements [40 CFR §122.41(j)(3)(ii)];
3. The date(s) analyses were performed [40 CFR §122.41(j)(3)(iii)];
4. The individual(s) who performed the analyses [40 CFR §122.41(j)(3)(iv)];
5. The analytical techniques or methods used [40 CFR §122.41(j)(3)(v)]; and
6. The results of such analyses [40 CFR §122.41(j)(3)(vi)].

C. Claims of confidentiality for the following information will be denied [40 CFR §122.7(b)]:

1. The name and address of any permit applicant or Discharger [40 CFR §122.7(b)(1)]; and
2. Permit applications and attachments, permits and effluent data [40 CFR §122.7(b)(2)].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Water Board, SWRCB, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, SWRCB, or USEPA copies of records required to be kept by this Order [*40 CFR §122.41(h)*] [*CWC 13267*].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, SWRCB, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [*40 CFR §122.41(k)*].
2. All permit applications shall be signed as follows:
 - a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [*40 CFR §122.22(a)(1)*];
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [*40 CFR §122.22(a)(2)*]; or
 - c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [*40 CFR §122.22(a)(3)*].
3. All reports required by this Order and other information requested by the Regional Water Board, SWRCB, or USEPA shall be signed by a person described in paragraph (b) of this provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described in paragraph (2.) of this provision [40 CFR §122.22(b)(1)];
 - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position) [40 CFR §122.22(b)(2)]; and
 - c. The written authorization is submitted to the Regional Water Board, SWRCB, or USEPA [40 CFR §122.22(b)(3)].
4. If an authorization under paragraph (3.) of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, SWRCB or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].
 5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations” [40 CFR §122.22(d)].

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [40 CFR §122.41(l)(4)].
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or SWRCB for reporting results of monitoring of sludge use or disposal practices [40 CFR §122.41(l)(4)(i)].
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and

reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [40 CFR §122.41(l)(4)(ii)].

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [40 CFR §122.41(l)(4)(iii)].

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date [40 CFR §122.41(l)(5)].

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [40 CFR §122.41(l)(6)(i)].
2. The following shall be included as information that must be reported within 24 hours under this paragraph [40 CFR §122.41(l)(6)(ii)]:
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(A)].
 - b. Any upset that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(B)].
 - c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [40 CFR §122.41(l)(6)(ii)(C)].
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [40 CFR §122.41(l)(6)(iii)].

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [40 CFR §122.41(l)(1)]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [40 CFR §122.41(l)(1)(i)]; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §122.41(l)(1)(ii)*].
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [*40 CFR §122.41(l)(1)(iii)*].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or SWRCB of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [*40 CFR §122.41(l)(2)*].

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [*40 CFR §122.41(l)(7)*].

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, SWRCB, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §122.41(l)(8)*].

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by

imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions [40 CFR §122.41(a)(2)] [CWC 13385 and 13387].

- B.** Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000 [40 CFR §122.41(a)(3)].
- C.** The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both [40 CFR §122.41(j)(5)].
- D.** The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 CFR §122.41(k)(2)].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [40 CFR §122.42(a)]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [40 CFR §122.42(a)(1)]:
 - a. 100 micrograms per liter ($\mu\text{g/L}$) [40 CFR §122.42(a)(1)(i)];
 - b. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [40 CFR §122.42(a)(1)(ii)];
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(1)(iii)]; or
 - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(1)(iv)].
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [40 CFR §122.42(a)(2)]:
 - a. 500 micrograms per liter ($\mu\text{g/L}$) [40 CFR §122.42(a)(2)(i)];
 - b. 1 milligram per liter (mg/L) for antimony [40 CFR §122.42(a)(2)(ii)];
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(2)(iii)]; or
 - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(2)(iv)].

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following [40 CFR §122.42(b)]:

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the CWA if it were directly discharging those pollutants [40 CFR §122.42(b)(1)]; and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order [40 *CFR* §122.42(b)(2)].

Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW [40 *CFR* §122.42(b)(3)].

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Quality Control Board (RWQCB) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.
- B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.
- C. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services.
- D. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	M-001	Outfall of Pond # 3, discharge to Los Angeles Aqueduct.
--	R-001U	In the Los Angeles Aqueduct, 25 feet upstream of the location where the discharge enters the aqueduct.
--	R-001D	In the Los Angeles Aqueduct, 50 feet downstream of the location where the discharge enters the aqueduct.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-001

- The Discharger shall monitor wastewater discharged from the facility via Discharge Point 001 at Monitoring Location M-001 as follows

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method ^a
Flow (Average for month)	mgd	Measured	1 / month	40 CFR Part 136 Methods
<i>Conventional Pollutants</i>				
pH	standard units	Grab	1 / month ^b	40 CFR Part 136 Methods
Total Suspended Solids (TSS) ^c	mg/L	Grab Pair ^d	2 / quarter	40 CFR Part 136 Methods

^a Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. Where no methods are specified for a given pollutant, pollutants shall be analyzed by method proposed by the Discharger and approved by the Executive Officer.

^b Minimum sampling frequency is once per month. In addition, when the chemical acetic acid or sodium bicarbonate is added to waters of the facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum.

^d Two grab samples (a grab pair) shall be collected on the same day, not less than two hours, nor greater than four hours apart from each other. This grab pair will fulfill the minimum sampling frequency of 2 samples per quarter. The samples are to be collected during a periodic cleaning operation or during some other operational mode which increases the discharges of total suspended solids. Such operations taking place during sampling shall be noted in monitoring reports.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method ^a
	lbs/day	Calculated ^d	1 / quarter	--
<i>Priority Pollutants – Aquaculture Chemical</i>				
Copper, Total Recoverable	mg/L	Grab	1 / discharge event ^{e, f}	40 CFR Part 136 Methods
<i>Non-Conventional Pollutants</i>				
Settleable Solids	mL/L	Grab Pair ^c	2 / quarter	40 CFR Part 136 Methods
Dissolved Oxygen	mg/L	Grab	1 / quarter	40 CFR Part 136 Methods
Electrical Conductivity @ 25 Deg. C	µmhos/cm	Grab	1 / month	40 CFR Part 136 Methods
Total Dissolved Solids (TDS)	mg/L	Grab	1 / quarter	40 CFR Part 136 Methods
	lbs/day	Calculated ^d	1 / quarter	--
Nitrate, Total (as N)	mg/L	Grab	1 / quarter	40 CFR Part 136 Methods
	lbs/day	Calculated ^d	1 / quarter	--
Nitrogen, Total (as N)	mg/L	Grab	1 / quarter	40 CFR Part 136 Methods
	lbs/day	Calculated ^d	1 / quarter	--
Orthophosphate, Dissolved (as P)	mg/L	Grab	1 / quarter	40 CFR Part 136 Methods
	lbs/day	Calculated ^d	1 / quarter	--
Temperature	°F	Grab	1 / quarter	40 CFR Part 136 Methods
<i>Non-Conventional Pollutants – Aquaculture Chemicals^g</i>				
Electrical Conductivity @ 25 Deg. C	µmhos/cm	Grab	1 / discharge event ^{e, h}	40 CFR Part 136 Methods
Oxytetracycline HCl	mg/L	Grab	1 / discharge event ^{e, i}	40 CFR Part 136 Methods
Potassium Permanganate (KMnO ₄)	mg/L	Grab	1 / discharge event ^{e, h}	40 CFR Part 136 Methods

^d The daily discharge rate (in lbs/day) is obtained from the following calculation for any calendar day:

$$\text{Daily Discharge Rate} = \frac{8.34}{N} \sum_{i=1}^N Q_i C_i$$

in which “n” is the number of samples analyzed in any calendar day, and Q_i and C_i are the flow rate (mgd) and the constituent concentration (mg/L), respectively, which are associated with each of the “n” grab samples which may be taken in any calendar day. For a composited sample, C_i is the concentration measured in the composited sample, and Q_i is the average flow rate occurring during the period over which samples are composited.

- ^e When chemicals containing copper (copper sulfate or chelated copper compounds) are added to waters of the facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum.
- ^f When there is more than one discharge event in a quarter, the Discharger is not required to sample for more than one of the events.
- ^g Effluent monitoring is not required for aquaculture drugs or chemicals authorized for use (as listed in Attachment I), which are added to food or injected into fish.
- ^h When the sodium bicarbonate or sodium chloride is added to waters of the facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum.
- ⁱ When this chemical parameter is added to waters of the facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method ^a
PVP Iodine	mg/L	Grab	1 / discharge event ^{e, h}	40 CFR Part 136 Methods
Chloramine-T ^j	mg/L	Grab	1 / discharge event ^{e, h}	40 CFR Part 136 Methods
Formaldehyde	mg/L	Grab	1 / discharge event ^{e, h}	40 CFR Part 136 Methods
Hydrogen Peroxide	mg/L	Grab	1 / discharge event ^{e, h}	40 CFR Part 136 Methods
Isoeugenol (Aqui-S®)	mg/L	Grab	1 / discharge event ^{e, h}	40 CFR Part 136 Methods
Penicillin G Potassium	mg/L	Grab	1 / discharge event ^{e, h}	40 CFR Part 136 Methods
Tricaine methanesulfonate (MS-222 with trade names of Finquel® or Tricaine-S®)	mg/L	Grab	1 / discharge event ^{e, h}	40 CFR Part 136 Methods
<i>Non-Conventional Pollutants – Aquatic Pesticides</i>				
Diquat	µg/L	Grab	1 / discharge event ^k	40 CFR Part 136 Methods
Glyphosate	µg/L	Grab	1 / discharge event ^l	40 CFR Part 136 Methods
Fluridone	µg/L	Grab	1 / discharge event ^m	40 CFR Part 136 Methods
Propylene glycol (<i>For Fluridone</i>)	µg/L	Grab	1 / discharge event ^l	40 CFR Part 136 Methods
Triclopyr	µg/L	Grab	1 / discharge event ⁿ	40 CFR Part 136 Methods
Ethanol (<i>For Triclopyr</i>)	µg/L	Grab	1 / discharge event ^m	40 CFR Part 136 Methods
Triethylamine (N,N-Diethylethanamine) (<i>For Triclopyr</i>)	µg/L	Grab	1 / discharge event ^m	40 CFR Part 136 Methods
Ethylenediaminetetraacetic Acid (EDTA) (<i>For Triclopyr</i>)	µg/L	Grab	1 / discharge event ^m	40 CFR Part 136 Methods
Nonylphenol	µg/L	Grab	1 / discharge event ^o	40 CFR Part 136 Methods

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS – NOT APPLICABLE

^j This Order prohibits Chloramine-T treatments in more than 2 raceways per day.

^k When the pesticide diquat is added to waters of the facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum.

^l When the pesticide glyphosate is added to waters of the facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum.

^m When the pesticide fluridone is added to waters of the facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum.

ⁿ When the pesticide triclopyr is added to waters of the facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum.

^o When the adjuvant nonylphenol is added to waters of the facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

The Discharger is allowed to use wastewater from this Facility for onsite irrigation as long as the discharge is not found to cause a pollution or nuisance.

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Locations R-001U and R-001D

1. The Discharger shall monitor the Los Angeles Aqueduct at Monitoring Locations R-001U and R-001D as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method ^P
Copper, Total Recoverable	mg/L	Grab	1 / discharge event ^q	40 CFR Part 136 Methods
Dissolved Oxygen	mg/L	Grab or Instantaneous	1 / quarter	40 CFR Part 136 Methods
Electrical Conductivity @ 25 Deg. C	µmhos/ cm	Grab or Instantaneous	1 / quarter	40 CFR Part 136 Methods
Formaldehyde	mg/L	Grab	1 / discharge event ^r	40 CFR Part 136 Methods
pH	standard units	Grab or Instantaneous	1 / quarter	40 CFR Part 136 Methods
Temperature	°F	Instantaneous	1 / quarter	40 CFR Part 136 Methods

2. In conducting the receiving water sampling, a log shall be kept of the condition of the receiving water. A summary of the log shall be reported in quarterly self-monitoring reports. Attention shall be given to the presence or absence of:
 - a. floating or suspended matter;
 - b. discoloration;
 - c. visible films, sheens, or coatings;
 - d. bottom deposits;
 - e. potential nuisance conditions;

^P Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. Where no methods are specified for a given pollutant, pollutants shall be analyzed by method proposed by the Discharger and approved by the Executive Officer.

^q Monitoring for this pollutant only required if chemicals containing copper (copper sulfate or chelated copper compounds) are added to waters of the facility. When there is more than one discharge event in a year, the Discharger is not required to sample for more than one of the events. A sample of the receiving water shall be collected at a time when the concentration of the parameter in the receiving water is expected to be at a maximum.

^r Monitoring for this pollutant only required at Monitoring Location R-001D and only if formaldehyde is added to waters of the facility. When there is more than one discharge event in a year, the Discharger is not required to sample for more than one of the events. A sample of the receiving water shall be collected at a time when the concentration of the parameter in the receiving water is expected to be at a maximum.

- f. aquatic life;
- g. algae, fungi, slimes, or other aquatic vegetation; and
- h. sample odor.

IX. OTHER MONITORING REQUIREMENTS – NOT APPLICABLE

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and record keeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.
2. The Discharger shall submit quarterly Self Monitoring Reports including the results of all required monitoring and monitoring conducted in addition to the minimum required monitoring and using USEPA approved test methods or other test methods specified in this Order. Quarterly reports shall be due on May 1, August 1, November 1, and February 1 following each calendar quarter.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Starts On...	Monitoring Period	Reporting Due with SMR on...
1 / discharge event	<Permit effective date>	Calendar day (Midnight through 11:59 PM)	May 1 August 1 November 1 February 1
1 / month	<First day of calendar month following permit effective date or on permit effective date if that date is first day of the month>	1 st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1 / quarter, and 2 / quarter	<Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date>	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1 / year	<January 1 following (or on) permit effective date>	January 1 through December 31	February 1

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. Example SMR reporting tables are contained in Attachment K of this Order, which the Discharger may use to submit monitoring data.
6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Dr, Suite 200
Victorville, CA 92392

C. Discharge Monitoring Reports (DMRs) – Not Applicable

D. Other Reports

1. Quarterly Drug and Chemical Use Report. The information listed below shall be submitted for all aquaculture drugs or chemicals used at the Facility. This information shall be reported at quarterly intervals and submitted with the quarterly self-monitoring reports using the drug and chemical usage report table found in Attachment J of this Order. At such time as the Discharger is required to begin submitting self-monitoring reports electronically, it shall continue to submit paper copies of the quarterly drug and chemical use reports to the Regional Water Board.
 - a. The name(s) and active ingredient(s) of the drug or chemical.
 - b. The date(s) of application.
 - c. The purpose(s) for the application.
 - d. The location and method of application (e.g., immersion bath, administered in feed), duration of treatment, whether the treatment was static or flush (for drugs or chemicals applied directly to water), amount in gallons or pounds used, treatment concentration(s), and the flow in cubic feet per second (cfs) in the treatment units.
 - e. The total flow through the facility in cubic feet per second (cfs) to the Los Angeles Aqueduct after mixing with the treated water.
 - f. For drugs and chemicals applied directly to water (i.e., immersion bath, flush treatment) and for which effluent monitoring is not otherwise required, the estimated concentration in the effluent at the point of discharge to the Los Angeles Aqueduct.
 - g. The method of disposal for drugs or chemicals used but not discharged in the effluent.
2. Quarterly Aquatic Pesticide Application Log. The information listed below shall be submitted for all aquatic pesticides used at the Facility. This information shall be reported at

quarterly intervals and submitted with the quarterly self monitoring reports using the aquatic pesticide application log found in Attachment L of this Order. At such time as the Discharger is required to begin submitting self-monitoring reports electronically, it shall continue to submit paper copies of the aquatic pesticide application log to the Regional Water Board.

- a. Date of application.
 - b. Location of application.
 - c. Name of applicator.
 - d. Application details, such as water temperature, flow or level of water body, time application started and stopped, and aquatic pesticide application rate and concentration.
 - e. Certification that applicator(s) followed the APAP.
3. Sludge Disposal. Report the volume and location of any solids sludge removed for disposal during cleaning operations.

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

WDID	6B140800003
Discharger	California Department of Fish and Game
Name of Facility	Black Rock Fish Hatchery
Facility Address	1 East Black Rock Springs Road
	Independence, CA 93526
	Inyo County
Facility Contact, Title and Phone	Marvin D. Waters, Hatchery Manager, (760) 878-2272
Authorized Person to Sign and Submit Reports	Marvin D. Waters, Hatchery Manager, (760) 878-2272
Mailing Address	1 Golden Trout Circle Independence, CA 93526
Billing Address	SAME
Type of Facility	Concentrated Aquatic Animal Production/ Fish Hatchery (SIC 0921)
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	C
Pretreatment Program	Not Applicable
Reclamation Requirements	Not Applicable
Facility Permitted Flow	Not Applicable
Facility Design Flow	Not Applicable
Watershed	Lower Owens Hydrologic Area
Receiving Water	Los Angeles Aqueduct
Receiving Water Type	Inland surface water conveyed by a constructed channel

- A.** The California Department of Fish and Game (hereinafter Discharger) is the owner and operator of Black Rock Fish Hatchery (hereinafter Facility) a trout fish hatchery. The City of Los Angeles Department of Water and Power owns the property at 1 East Black Rock Springs Road, Independence on which the Facility is located.
- B.** The Facility discharges wastewater to the Los Angeles Aqueduct, a water of the United States, and is currently regulated by Order 6-99-53 which was adopted on November 17, 1999 and expired on November 17, 2004. The terms of Order 6-99-53 were continued in effect after the permit expiration date.

- C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on November 1, 2004.

II. FACILITY DESCRIPTION

The Facility is located approximately nine miles north of the Community of Independence, Inyo County, within Section 2 and 11, T12S, R34E, MDB&M, as shown in Attachment B.

According to the Discharger's permit application, the Facility produces rainbow, brown, and kamloop trout for stocking state waters and as future brood fish for the Mount Whitney Fish Hatchery, which is located approximately 6½ miles south of the Facility. The California Department of Fish and Game considers the Facility an annex to the Mount Whitney Fish Hatchery. The Facility reported an annual production average of 167,000 pounds (355,800 fish), and approximately 168,000 pounds of food used during the month of maximum feeding (September). Under the National Pollutant Discharge Elimination System (NPDES) program, the Facility is considered a concentrated aquatic animal production facility.

The Facility is located on approximately 45 acres, and operates a fish egg incubation building, a flow-through brood stock rearing pond (Pond # 1) which is approximately four feet deep and three acres in area, four 500-foot long production raceways (each 500-foot long raceway consists of five 100-foot long by 10-foot wide by 30-inch deep raceway ponds in series, for a total of twenty raceway ponds at the Facility), two flow-through settling ponds (Ponds # 2 and # 3), and miscellaneous operation and maintenance structures.

The water supply for Pond # 1 is primarily obtained from Division Creek, located about 500 yards from the north end of Pond # 1. The water drawn from Division Creek also contains water from Goodale Creek, which is piped underground for 2 miles to Division Creek. Intake flow from Division Creek ranges from 3 to 10 cubic feet per second (cfs) dependent on weather conditions. The water supply for the raceway ponds are from two onsite water wells (Well 351 and Well 356). Well 351 and Well 356 produce an average water flow of 17 cfs and 12 cfs, respectively. Well 351 is used as the primary source of water for the raceways, while Well 356 is used as a back-up supply if Well 351 has mechanical problems. During drought years, well water is also used to supplement the surface water supply to Pond # 1. The well water passes through six 45-inch diameter by 6-foot long packed aeration columns (containing clear plastic 2½-inch to 3-inch tall by 2-inch round rings with holes), which is then pumped underground into the head flume of the production raceways. Flow through Pond #1 is approximately 3 cfs, while each of the four 5-pond raceways uses approximately 4 cfs. No re-circulation of water occurs at the Facility.

The discharges from the Facility include unused food, fish excrement, and various chemicals used to treat and/or prevent fish disease. The Discharger currently uses sodium chloride (salt) as a flush treatment in the raceways as a fish-cleansing agent to control the spread of fish disease, potassium permanganate to control gill bacteria on fish, and the antibiotic oxytetracycline (brand name Terramycin) given as a feed additive to control fish diseases. In addition to salt, potassium permanganate, and oxytetracycline the Discharger and the California Department of Fish and Game (DFG) Fish Health Laboratory requested to include in the Order a list of aquaculture drugs and chemicals (see Attachment I) that may be used at all DFG hatcheries in the Region. These

aquaculture drugs and chemicals, prescribed by the DFG Fish Health Laboratory, are to be used on an “as needed” basis to treat various fish disease and parasitic outbreaks.

The Discharger also intends to apply the following aquatic pesticides in Pond # 1 to control weeds and algae: Reward, AquaMaster™, Sonar™, and Renovate3®. Descriptions of these aquatic pesticides and active ingredients are discussed further in Section IV.C.3 of this Fact Sheet.

A. Description of Wastewater and Biosolids Treatment or Controls

Wastewater from the raceways and from the rearing pond (Pond # 1) are discharged to two wetland settling ponds (Ponds # 2 and # 3) operated in series. Each settling pond is approximately three acres, containing cattails and tules. In 1995, the Discharger cleaned-out deepened Ponds # 2 and # 3, and estimates the depth of Pond # 2 to be 9 feet. The Discharger estimates approximately 20% of Pond # 3 to be 9 feet deep, and 80% to be about 4 feet deep.

B. Discharge Points and Receiving Waters

Discharges from the facility occur through Discharge Point 001 (Latitude 36° 55’ 35” North, Longitude 118° 13’ 42” West), where effluent from Pond # 3 discharges directly into the Los Angeles Aqueduct. The Los Angeles Aqueduct is located within the Lower Owens Hydrologic Area (Hydrologic Unit No. 603.30), and the ground waters of the Owens Valley Ground Water Basin (DWR No. 6-12).

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in the previous Order for discharges from the settling pond (Pond # 3) to the Los Angeles Aqueduct (Discharge Point 001) and representative monitoring data from the term of the previous Order (Monitoring Location M-001) are as follows:

**Summary of Effluent Limitations and Representative Monitoring Data:
 Order No. 6-99-53.**

Parameter	Units	Effluent Limitation		Monitoring Data (From January 1999 to July 2004)	
		Quarterly Average	Instantaneous Maximum	Highest Quarterly Average Discharge	Highest Instantaneous Maximum Discharge
Settleable Solids ¹	ml/L	0.1	--	--	<0.1
Total Suspended Solids (TSS) ¹⁴	mg/L	5.0	15.0	5.0	7.2
	lb/day	--		36.45	40.26

Parameter	Units	Effluent Limitation		Monitoring Data (From January 1999 to July 2004)	
		Quarterly Average	Instantaneous Maximum	Highest Quarterly Average Discharge	Highest Instantaneous Maximum Discharge
Flow	mgd	--	--	12.3	--
Total Dissolved Solids (TDS)	mg/L	--	--	--	153
Dissolved Oxygen	mg/L	--	--	--	5.8 (lowest value)
Nitrate Nitrogen (as N) ¹	mg/L	--	--	0.409	0.412
Nitrogen, Total (as N) ^{1,2}	mg/L	--	--	--	--
Total Kjeldahl Nitrogen (as N) ³	mg/L	--	--	0.385	0.52
Dissolved Orthophosphate (as P) ¹	mg/L	--	--	0.08355	0.0864
pH	standard units	not less than 6.0 nor greater than 9.0		--	6.2 (lowest) 9.2 (highest)
Temperature, Deg. Fahrenheit	°F	--	--	--	62

¹ Grab pair sampling required by previous Order for this parameter.

² Total Nitrogen data not reported. Discharger provided total Kjeldahl nitrogen (TKN) and nitrate data instead, however nitrite data was missing to calculate total nitrogen (Total Nitrogen = TKN + (nitrate+nitrite)).

³ TKN monitoring was not required in the previous Order, however TKN data submitted by the Discharger is summarized in this table.

⁴ Limit is 6.0 mg/L net over levels in influent

D. Compliance Summary

Total nitrogen effluent data were not reported in monitoring results, instead nitrate and TKN data were reported which are components used to determine total nitrogen. However, nitrite data were missing so that total nitrogen values could not be calculated. Effluent was not monitored for chemicals that were used at the Facility, which was required by the previous monitoring and reporting program. According to chemical usage reports, potassium permanganate and oxytetracycline (also known by the brand name Terramycin) was used at the Facility during the term of Order No. 6-99-53.

All available effluent monitoring data were compiled and evaluated to review compliance with the effluent limitations outlined above. The available effluent data indicate that the Discharger exceeded the upper pH limit on December 10, 2003. The effluent pH was reported as a grab pair with values of 9.2 and 8.1, exceeding the upper pH limit of 9.0. A review of available effluent data shows that the Discharger has complied with all other existing effluent limitations.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

C. State and Federal Regulations, Policies, and Plans

- 1. Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Lahontan Region (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan at page 2-3 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan does not specifically identify beneficial uses for the Los Angeles Aqueduct, but does identify present and potential uses for Haiwee Reservoir, to which the Los Angeles Aqueduct is tributary. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, beneficial uses applicable to the Los Angeles Aqueduct and to the Owens Valley Ground Water Basin are as follows:

Summary of Beneficial Uses of Receiving Waters

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	L.A. Aqueduct/ Haiwee Reservoir	<u>Existing:</u> Municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), contact (REC-1) and non-contact (REC-2) water recreation, commercial and sport fishing (COMM), cold freshwater habitat (COLD), wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), and spawning, reproduction, and development of fish and wildlife (SPWN).
--	Owens Valley Ground Water Basin	<u>Existing:</u> Municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), freshwater replenishment (FRSH), and wildlife habitat (WILD).

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.
3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.
4. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for and calculating water quality-based effluent limitations (WQBELs), and requires Dischargers to submit data sufficient to do so.
5. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.
6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require

that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in this Order are at least as stringent as effluent limitations in the previous Order.

- 7. Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

D. Impaired Water Bodies on CWA 303(d) List

The Los Angeles Aqueduct is not an impaired water body on the CWA 303(d) list for 2002. However, the Los Angeles Aqueduct is tributary to the Haiwee Reservoir, which is listed as impaired for copper on the CWA 303(d) list for 2002. Copper problems have been identified that are related to algacide used to prevent taste/odor problems in drinking water supplies. Currently, a copper TMDL is being developed for the Haiwee Reservoir.

A potential source of copper discharge at fish hatcheries is from the use of copper sulfate, which is used to control algae and other vegetation that is susceptible to the toxic effects of copper uptake, and is also used to control the growth of external parasites and bacteria on fish. The Discharger does not currently use copper sulfate at the Facility and the reasonable potential analysis (RPA) for copper did not demonstrate reasonable potential to exceed applicable water quality criteria (described in detail in Section IV.C.3. of this Fact Sheet). However, the Discharger requested that copper sulfate be included in a list of aquaculture drugs and chemicals to be used on an “as needed” basis at the Facility (see Attachment I). Therefore, water quality-based effluent limitations are being established for copper as described in Section IV.C.3 of this Fact Sheet.

E. Other Plans, Policies and Regulations

Regulation of Aquaculture Drugs and Chemicals

Concentrated aquatic animal production (CAAP) facilities produce fish and other aquatic animals in greater numbers than natural stream conditions would allow; therefore, system management is important to ensure that fish do not become overly stressed, making them more susceptible to disease outbreaks. The periodic use of various aquaculture drugs and chemicals is needed to ensure the health and productivity of cultured aquatic stocks and to maintain production efficiency.

CAAP facilities may legally obtain and use aquaculture drugs in one of several ways. Some aquaculture drugs and chemicals used at CAAP facilities in the Region are approved by the U.S. Food and Drug Administration (FDA) for certain aquaculture uses on certain aquatic species. Others have an exemption from this approval process when used under certain specified conditions. Still others are not approved for use in aquaculture, but are considered to be of “low regulatory priority” by FDA (hereafter “LRP drug”). FDA is unlikely to take regulatory action

related to the use of a LRP drug if an appropriate grade of the chemical or drug is used, good management practices are followed, and local environmental requirements are met (including NPDES permit requirements). Finally, some drugs and chemicals may be used for purposes, or in a manner not listed on their label (i.e., “extra-label” use) under the direction of licensed veterinarians for the treatment of specific fish diseases diagnosed by fish pathologists. It is assumed that veterinarian-prescribed aquaculture drugs are used only for *short periods of duration* during acute disease outbreaks. Each of these methods of obtaining and using aquaculture drugs is discussed in further detail below.

It is the responsibility of those using, prescribing, or recommending the use of these products to know which aquaculture drugs and chemicals may be used in CAAP facilities in the Region under all applicable federal, State, and local regulations and which aquaculture drugs and chemicals may be discharged to waters of the United States and waters of the State in accordance with this permit. A summary of regulatory authorities related to aquaculture drugs and chemicals is outlined below.

Summary of Regulatory Authorities

FDA is responsible for ensuring the safety, wholesomeness, and proper labeling of food products; ensuring the safety and effectiveness of both human and animal drugs; and ensuring compliance with existing laws governing these drugs. The Federal Food, Drug, and Cosmetic Act (FFDCA), the basic food and drug law of the United States, includes provisions for regulating the manufacture, distribution, and the use of, among other things, new animal drugs and animal feed. FDA’s enforcement activities include correction and prevention of violations, removing illegal products or goods from the market, and punishing offenders. Part of this enforcement includes testing domestic and imported aquacultural products for drug and pesticide residues.

FDA’s Center for Veterinary Medicine (CVM) regulates the manufacture, distribution, and use of animal drugs. CVM is responsible for ensuring that drugs used in food-producing animals are safe and effective and that food products derived from treated animals are free from potentially harmful residues. CVM approves the use of new animal drugs based on data provided by a sponsor (usually a drug company). To be approved by CVM, an animal drug must be effective for the claim on the label and safe when used as directed for (1) treated animals; (2) persons administering the treatment; (3) the environment, including non-target organisms; and (4) consumers. CVM establishes tolerances and animal withdrawal periods as needed for all drugs approved for use in food-producing animals. CVM has the authority to grant investigational new animal drug (INAD) exemptions so that data can be generated to support the approval of a new animal drug.

There are several options for CAAP facilities to legally obtain and use aquaculture drugs. Aquaculture drugs and chemicals can be divided into four categories as outlined below: approved drugs, investigational drugs, unapproved drugs of low regulatory priority, and extra-label use drugs.

FDA approved new animal drugs

Approved new animal drugs have been screened by the FDA to determine whether they cause significant adverse public health or environmental impacts when used in accordance with label instructions. Each aquaculture drug in this category is approved by FDA for use on specific fish species, for specific disease conditions, for specific dosages, and with specific withdrawal times. Product withdrawal times must be observed to ensure that any product used on aquatic animals at a CAAP facility does not exceed legal tolerance levels in the animal tissue. Observance of the proper withdrawal time helps ensure that products reaching consumers are safe and wholesome.

FDA-approved new animal drugs that are added to aquaculture feed must be specifically approved for use in aquaculture feed. Drugs approved by FDA for use in feed must be found safe and effective. Approved new animal drugs may be mixed in feed for uses and at levels that are specified in FDA medicated-feed regulations only. It is unlawful to add drugs to feed unless the drugs are approved for feed use. For example, producers may not top-dress feed with a water-soluble, over-the-counter antibiotic product. Some medicated feeds, such as Romet-30®, may be manufactured only after the FDA has approved a medicated-feed application (FDA Form 1900) submitted by the feed manufacturer.

FDA Investigational New Animal Drugs (INAD)

Aquaculture drugs in this category can only be used under an investigational new animal drug or “INAD” exemption. INAD exemptions are granted by FDA CVM to permit the purchase, shipment and use of an unapproved new animal drug for investigational purposes. INAD exemptions are granted by FDA CVM with the expectation that meaningful data will be generated to support the approval of a new animal drug by FDA in the future. Numerous FDA requirements must be met for the establishment and maintenance of aquaculture INADs.

There are two types of INADs: standard and compassionate. Aquaculture INADs, most of which are compassionate, consist of two types: routine and emergency. A compassionate INAD exemption is used in cases in which the aquatic animal’s health is of primary concern. In certain situations, producers can use unapproved drugs for clinical investigations (under a compassionate INAD exemption) subject to FDA approval. In these cases, CAAP facilities are used to conduct closely monitored clinical field trials. FDA reviews test protocols, authorizes specific conditions of use, and closely monitors any drug use under an INAD exemption. An application to renew an INAD exemption is required each year. Data recording and reporting are required under the INAD exemption in order to support the approval of a new animal drug or an extension of approval for new uses of the drug.

FDA Unapproved new animal drugs of low regulatory priority (LRP drugs)

LRP drugs do not require a new animal drug application (NADA) or INAD exemptions from FDA. Further regulatory action is unlikely to be taken by FDA on LRP drugs as long as an appropriate grade of the drug or chemical is used, good management practices are followed, and local environmental requirements are met (such as NPDES permit requirements contained in this Permit). FDA is unlikely to object at present to the use of these LRP drugs if the following conditions are met:

1. The aquaculture drugs are used for the prescribed indications, including species and life stages where specified.
2. The aquaculture drugs are used at the prescribed dosages (as listed above).
3. The aquaculture drugs are used according to good management practices.
4. The product is of an appropriate grade for use in food animals.
5. An adverse effect on the environment is unlikely.

FDA's enforcement position on the use of these substances should be considered neither an approval nor an affirmation of their safety and effectiveness. Based on information available in the future, FDA may take a different position on their use. In addition, FDA notes that classification of substances as new animal drugs of LRP does not exempt CAAP facilities from complying with all other federal, state and local environmental requirements, including compliance with this Permit

Extra-label use of an approved new animal drug

Extra-label drug use is the actual or intended use of an approved new animal drug in a manner that is not in accordance with the approved label directions. This includes, but is not limited to, use on species or for indications not listed on the label. Only a licensed veterinarian may prescribe extra-label drugs under FDA CVM's extra-label drug use policy. CVM's extra-label use drug policy (CVM Compliance Policy Guide 7125.06) states that licensed veterinarians may consider extra-label drug use in treating food-producing animals if the health of the animals is immediately threatened and if further suffering or death would result from failure to treat the affected animals. CVM's extra-label drug use policy does not allow the use of drugs to prevent diseases (prophylactic use), improve growth rates, or enhance reproduction or fertility. Spawning hormones cannot be used under the extra-label policy. In addition, the veterinarian assumes the responsibility for drug safety and efficacy and for potential residues in the aquatic animals.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established. Three options exist to protect water quality: 1) 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

A. Discharge Prohibitions

Discharge prohibitions included in this Order are based upon waste discharge prohibitions contained in the Basin Plan, and discharge prohibitions as specified from the California Water Code. Prohibitions on introduction of discharges of any aquaculture drug or chemical not already considered by this Order, or in a manner other than specified in this Order, are necessary to protect the beneficial uses of the receiving waters and to meet water quality objectives from the Basin Plan.

B. Technology-Based Effluent Limitations

1. Scope and Authority

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- Best practicable treatment control technology currently available (BPT) is based on the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and nonconventional pollutants.
- Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.
- Best conventional pollutant control technology (BCT) is a standard for the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part “cost reasonableness” test.
- New source performance standards (NSPS) that represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent the best and most efficient production processes and wastewater treatment technology for new sources.

The CWA requires EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BCT, BAT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR §125.3 of the NPDES regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR §125.3.

A cold-water concentrated aquatic animal production (CAAP) facility is defined in Title 40 of the Code of Federal Regulations (40 CFR 122.24) as a fish hatchery, fish farm, or other facility that contains, grows, or holds cold-water fish species or other cold water aquatic animals including, but not limited to, the Salmonidae family of fish (e.g. trout and salmon) in ponds, raceways, or other similar structures. In addition, the facility must discharge at least

30 calendar days per year, produce at least 20,000 pounds (9,090 kilograms) harvest weight of aquatic animals per year, and feed at least 5,000 pounds (2,272 kilograms) of food during the calendar month of maximum feeding. A facility that does not meet the above criteria may also be designated a cold-water CAAP facility upon a determination that the facility is a significant contributor of pollution to waters of the United States [40 CFR 122.24(c)]. Cold-water, flow-through CAAP facilities are designed to allow the continuous flow of fresh water through tanks and raceways used to produce aquatic animals (typically cold-water fish species). Flows from CAAP facilities ultimately are discharged to waters of the United States and of the State. 40 CFR 122.24 specifies that CAAP facilities are point sources subject to the National Pollutant Discharge Elimination System (NPDES) program. The Discharger's facility meets the NPDES definition of a cold-water, flow-through CAAP.

The operation of CAAP facilities may introduce a variety of pollutants into receiving waters. USEPA identifies three classes of pollutants: (1) conventional pollutants (i.e., total suspended solids (TSS), oil and grease (O&G), biochemical oxygen demand (BOD), fecal coliforms, and pH); (2) toxic pollutants (e.g., metals such as copper, lead, nickel, and zinc and other toxic pollutants; and (3) non-conventional pollutants (e.g., ammonia-N, Formalin, and phosphorus). Some of the most significant pollutants discharged from CAAP facilities are solids from uneaten feed and fish feces that settle to the bottom of the raceways. Both of these types of solids are primarily composed of organic matter including BOD, organic nitrogen, and organic phosphorus.

Fish raised in CAAP facilities may become vulnerable to disease and parasite infestations. Various aquaculture drugs and chemicals are used periodically at CAAP facilities to ensure the health and productivity of the confined fish population, as well as to maintain production efficiency. Aquaculture drugs and chemicals are used to clean raceways and to treat fish for parasites, fungal growths and bacterial infections. Aquaculture drugs and chemicals are sometimes used to anesthetize fish prior to spawning or "tagging" processes. As a result of these operations and practices, drugs and chemicals may be present in discharges to waters of the United States or waters of the State.

On August 23, 2004 USEPA published Effluent Limitation Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category (hereafter "ELG"). These ELGs became effective on September 22, 2004. The ELG regulation establishes national technology-based effluent discharge requirements for flow-through and recirculating systems and for net pens based on BPT, BCT, BAT and NSPS. In its proposed rule, published on September 12, 2002, USEPA proposed to establish numeric limitations for a single constituent – total suspended solids (TSS) – while controlling the discharge of other constituents through narrative requirements. In the final rule, however, USEPA determined that, for a nationally applicable regulation, it would be more appropriate to promulgate qualitative TSS limitations in the form of solids control best management practices (BMP) requirements. Furthermore, the final ELG does not include numeric effluent limitations for non-conventional and toxic constituents, such as aquaculture drugs and chemicals, but also relies on narrative limitations to address these constituents. The final ELG applies to CAAP facilities that produce, hold or contain 100,000 pounds or more of aquatic animals per year (any 12 month period). The Discharger's facility is therefore subject to ELG requirements.

2. Applicable Technology-Based Effluent Limitations

USEPA’s final ELG for the aquaculture industry does not include numeric effluent limitations on any conventional, non-conventional, or toxic constituents. Rather, USEPA promulgated qualitative limitations in the form of BMP requirements. Technology-based requirements in this Order are based on a combination of application of the ELG for BMP requirements and case-by-case numeric limitations developed using best professional judgment (BPJ) and carried over from the previous Order. Section 402(o) of the CWA prohibits backsliding of effluent limitations that are based on BPJ to reflect a subsequently promulgated ELG which is less stringent. Order No. 6-99-53 contained effluent limitations for TSS of 5.0 mg/L and 15.0 mg/L as a quarterly average and instantaneous maximum, respectively, based on BPJ. In addition, the previous Order contained effluent limitations for settleable solids of 0.1 ml/L as a quarterly average based on BPJ. These limitations were established as a means of controlling the discharge of solids from algae, silt, fish feces and uneaten feed and were based on a modification of effluent limitations established for similar facilities in Idaho in a permit issued by USEPA Region 10.

The board also determined that clarification of the earlier limit for TSS is needed. When establishing the limit in previous permits, the Board stated that the hatchery discharge shall not contain concentrations of TSS greater than the effluent limit. Additionally, background water quality is described as generally of excellent quality and background concentrations of TSS were not considered to be significantly above detection limits. This assumption may not always be correct, and the board is clarifying in this permit that the limit was intended to be 5 mg/L above background (quarterly average), and is measured as net over levels in the influent. Clarifying that the effluent limit is to 5 mg/L (quarterly average) net over levels in the influent is not considered to be backsliding because it is simply a clarification of what was intended under previous facility permits.

In this Order, the Regional Water Board is replacing all quarterly average effluent limitations with average monthly effluent limitations. Monthly averages are a more common averaging period for limitations and an averaging period consistent with federal NPDES regulatory requirements at 40 CFR §122.45(d). Statistical procedures from USEPA’s 1991 *Technical Support Document for Water Quality-based Toxics Control* (TSD) establish the relationship between an average monthly effluent limitation and a maximum daily effluent limitation. The Regional Water Board has modified these statistical procedures to establish the relationship between the existing quarterly average effluent limitation and an equivalent average monthly effluent limitation. The ratio between these two limitations may be expressed as:

$$\frac{\text{monthly limitation}}{\text{quarterly limitation}} = \frac{\exp [z_m \sigma_n - 0.5 \sigma_n^2]}{\exp [z_q \sigma_n - 0.5 \sigma_n^2]}$$

where:

$$\sigma_n^2 = \ln([CV^2/n] + 1)$$

CV = the coefficient of variation of the effluent (default CV = 0.6)

n = number of samples in monitoring period
 z = z statistic
 z_m = z for percentile occurrence probability basis for the monthly limitation
 z_q = z for percentile occurrence probability basis for the quarterly limitation
 z_{95} = 1.645, for 95th percentile occurrence probability

In order to determine this ratio, the Regional Board assumed the following:

- $CV = 0.6$
based on USEPA's recommended default assumptions
- $n = 4$ for the average monthly effluent limitation
based on default assumptions of TSD statistical approach regardless of actual monitoring frequency
- $n = 12$ for a quarterly average effluent limitation
assuming $n = 4$ for each of three months in a calendar quarter
- z percentile probability = 95th percentile for both monthly and quarterly limitations
monthly probability basis based on TSD recommendation
quarterly probability basis assumed to be the same as the monthly probability basis

Based on these assumptions and using the equation above, the ratio between the average monthly effluent limitation and the quarterly average effluent limitation is:

$$\frac{\text{monthly limitation}}{\text{quarterly limitation}} = 1.19$$

Therefore, in this Order, the quarterly average effluent limitations for TSS and settleable solids are as follows:

TSS

Average monthly effluent limitation = 5.0 mg/L (quarterly limitation) x 1.19 = 6.0 mg/L.

Settleable Solids

Average monthly effluent limitation = 0.1 ml/L (quarterly limitation) x 1.19 = 0.1 ml/L

The Regional Water Board has determined that a change from the previous quarterly average effluent limitations to average monthly effluent limitations to be appropriate and reasonable. The Facility's performance during the term of the previous Order demonstrates that it is capable of meeting these average monthly effluent limitations. Conversion of the quarterly average effluent limitation for TSS of 5.0 mg/L to an average monthly effluent limitation of 6.0 mg/L does not constitute backsliding because these limitations are statistically equivalent.

The board also determined that clarification of the earlier limit for TSS is needed. When establishing the limit in previous permits, the Board stated that the hatchery discharge shall not contain concentrations of TSS greater than the effluent limit. Additionally, background water quality is described as generally of excellent quality and background concentrations of TSS were not considered to be significantly above detection limits. This assumption may not always be correct, and the board is clarifying in this permit that the limit was intended to be 5 mg/L above background (quarterly average). This assumption may not have been correct, and the board is clarifying in this permit that the limit was always intended to be 5 mg/L net over levels in influent. Clarifying that the effluent limit is to 5 mg/L (quarterly average) net over levels in influent is not considered to be backsliding because it is simply a clarification of what was intended under previous facility permits.

The previous Order contained effluent limitations for pH, requiring the discharge to have a pH of not less than 6.0 pH units nor greater than 9.0 pH units. Removal of these numeric limitations for pH would constitute backsliding under CWA Section 402(o). The Regional Water Board has determined that the numeric effluent limitation for pH continues to be applicable to the Facility and that backsliding is not appropriate, therefore, the pH limitations from the previous Order are being carried over to this Order.

**Summary of Technology-based Effluent Limitations
 Discharge Point 001**

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	standard units	--	--	6.0	9.0
Total Suspended Solids (TSS) ^a	mg/L	6.0	--	--	15.0
Settleable Solids	ml/L	0.1	--	--	--

^{a a} Limit is mg/L net over levels in influent

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR §122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water, as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other State plans and policies, or water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

As described in Section III.C.1. of this Fact Sheet, by applying the tributary rule, existing beneficial uses of the Los Angeles Aqueduct include municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), contact (REC-1) and non-contact (REC-2) water recreation, commercial and sport fishing (COMM), cold freshwater habitat (COLD), wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), and spawning, reproduction, and development of fish and wildlife (SPWN).

The Basin Plan does not contain numeric Water Quality Objectives (WQOs) for the Los Angeles Aqueduct. The Basin Plan does contain downstream numeric Water Quality Objectives (WQOs) for the Haiwee Reservoir, however, the Regional Water Board does not apply the tributary rule to site-specific numeric WQOs.

WQOs that apply to all surface waters (including wetlands) within the Lahontan Region are described in Pages 3-3 through 3-7 of the Basin Plan. The WQOs applicable to the Los Angeles Aqueduct have been incorporated in to the Order as Receiving Water Limitations V.A.1 through V.A.19.

3. Determining the Need for WQBELs

CTR Constituents

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in this Order. The Regional Water Board analyzed effluent and receiving water data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBELs are required. The RPA considers criteria from the CTR, NTR, and water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board identified the maximum observed

effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

- 1) Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limit is needed.
- 2) Trigger 2 – If background water quality (B) > C and pollutant is detected in effluent, a limit is needed.
- 3) Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants for which effluent data were available. On December 14, 2000 during a Facility inspection, the effluent was sampled and analyzed for priority pollutant metals. In addition, the Discharger collected Facility influent (“headbox” of raceways, consisting of influent well water) and effluent samples on May 26, 2004 for priority pollutant analysis. The Discharger also performed an additional effluent sampling for dioxins on September 16, 2004. These data were used in the RPA and are summarized in Attachment H for Discharge Point 001. All priority pollutants were non-detects, and did not demonstrate reasonable potential to exceed applicable water quality criteria based on these sampling events. However, as discussed below in the section for copper sulfate, the Regional Water Board has determined using Trigger 3 as described above, that a WQBEL for copper is needed at Discharge Point 001.

Copper

A potential source of copper discharge (copper is identified as a priority pollutant in the NTR and CTR) at fish hatcheries is from the use of copper sulfate and chelated copper compounds, which are used to control algae and other vegetation that is susceptible to the toxic effects of copper uptake, as well as to control the growth of external parasites and bacteria on fish. Although copper sulfate is not currently used at the Facility, the Discharger included copper sulfate in a list of aquaculture drugs and chemicals that may be used on an “as needed” basis to treat various fish disease and parasitic outbreaks (see Attachment I). The effluent sampling for priority pollutant metals on December 14, 2000 and for all priority pollutants conducted on May 26, 2004 did not coincide with copper sulfate usage at the Facility, nor are there any effluent copper data available to assess the impact of copper sulfate use at the Facility. Therefore, effluent copper concentrations were

estimated based on prescribed treatment rates and Facility flow information supplied by the Discharger.

The following information and calculations were used to determine the estimated effluent copper concentration at Discharge Point 001, calculations assume the flow from the raceways mixes completely with the volume of water in the settling basin and is discharged with no further concentration, breakdown, or dilution of copper sulfate.

Copper sulfate usage:

According to the Discharger, copper sulfate pentahydrate ($\text{CuSO}_4+5\text{H}_2\text{O}$) is used at a rate of up to 0.5 pounds per cubic foot per second (cfs) of raceway flow.

Flow and volume estimates:

The hatchery has 4 rearing raceways, with a water flow rate through each raceway at 4 cfs. The Discharger estimates the chemical retention time to run through an entire raceway to be one hour.

The dilution volume of water from one rearing raceway after one hour is 107,720 gallons (1 cfs = 26,930 gallons per hour).

The hatchery has one brood stock rearing pond (Pond#1) with a water flow rate of 3 cfs, which discharges into the settling ponds. The dilution volume of water from Pond #1 after one hour is 80,790 gallons (1 cfs = 26,930 gallons per hour).

The estimated dilution volume of water from the two settling ponds (Pond # 2 and Pond # 3) were calculated as follows:

Pond # 2: Nine feet deep and an area of 3 acres.

1 acre = 43,560 square feet, 3 acres = 130,680 square feet

To simplify calculations, the shape of the pond was made into a square.

With an area of 130,680 square feet, each side of the square is about 362 feet long.

Volume of Pond # 2 at 362 feet x 362 feet x 9 feet is 1,179,396 cubic feet, or 8,822,495 gallons (1 cubic foot = 7.48052 gallons).

Pond # 3: 80% is 4 feet deep, 20% is 9 feet deep, with a total area of 3 acres.

Shape of pond is a square again, calculate 4 and 9 feet deep sections separately.

Volume of four feet deep section = (0.80 x 362) feet x 362 feet x 4 feet = 419,341 cubic feet = 3,136,887 gallons.

Volume of nine feet deep section = (0.20 x 362) feet x 362 feet x 9 feet = 235,879 cubic feet = 1,764,499 gallons.

Volume of Pond # 3 = 3,136,887 + 1,764,499 gallons = 4,901,386 gallons

Total estimated volume of Pond # 2 and Pond # 3 = 13,723,881 gallons

The total dilution volume from the 4 rearing raceways and Pond #1 during one hour of flow, plus the volume of the settling ponds, is 14,235,551 gallons.

Estimate of copper sulfate and copper concentrations at Discharge Point 001:

Estimated final effluent concentration of copper sulfate pentahydrate (CuSO₄+5H₂O)(in ppm) =
 Total pounds CuSO₄ applied / (3,773,786 gallons water x 8.34 pounds/gallon) x 1,000,000

Molecular weight of copper sulfate pentahydrate (CuSO₄+5H₂O) = 249.68

Molecular weight copper = 63.546

Conversion factor for copper sulfate pentahydrate to copper = 0.254509773

Estimated Potential Concentrations of Copper – Discharge Point 001.

Number of Rearing Raceways Treated with Copper Sulfate	Total Pounds of Copper Sulfate Pentahydrate Applied	Estimated Final Effluent Concentration		
		Copper Sulfate Pentahydrate (ppm)	Copper (ppm)	Copper (ppb)
1	2	0.0168457	0.004287	4.29
4	8	0.0673829	0.017149	17.1

The CTR includes Ambient Water Quality Criteria for the Protection of Aquatic Life for copper. The Criterion Maximum Concentration (CMC), a 1-hour average, and Criterion Continuous Concentration (CCC), a 4-day average, are hardness dependent. The criteria are expressed in terms of the dissolved fraction of the metal in the water column and are calculated from the total recoverable values by applying a conversion factor. The conversion factor for copper in the CTR is 0.96 for both acute (CMC) and chronic (CCC) criteria. The lowest hardness concentration of the influent and effluent reported by the Discharger was 78 mg/L. Water quality criteria for copper for the protection of aquatic life, as established by the CTR are 7.24 and 10.64 µg/L – chronic and acute criteria for dissolved copper (7.54 and 11.08 µg/L total recoverable) at 78 mg/L hardness. Based on the estimated effluent copper concentrations ranging from 4.29 to 17.1 µg/L, the Regional Water Board finds that there is reasonable potential for copper to be present in the discharge at levels exceeding CTR water quality criteria for the protection of aquatic life, and accordingly, is establishing the WQBELs for copper as described in Section IV.C.4 of this Fact Sheet.

Non-CTR Constituents

Formaldehyde as Formalin

A 37 percent formaldehyde solution (formalin) is periodically used at hatcheries as a fungicide treatment on fish eggs and fish in the raceways. Although the Discharger does not currently use formalin, it may be used in emergencies. Formalin (also known by the trade names Formalin-F®, Paracide-F®, PARASITE-S®) is approved through FDA’s New Animal Drug Application (NADA) program for use in controlling external protozoa and monogenetic trematodes on fish, and for controlling fungi of the family Saprolegniaceae in

food-producing aquatic species (including trout and salmon). For control of other fungi, formalin may be used under an Investigational New Animal Drug (INAD) exemption. Formalin can be used as a “drip” treatment to control fungus on fish eggs, or as a “flush” treatment in raceways.

Effluent formaldehyde data are not available to assess the impact of formalin use at the Facility. Therefore, the following information and calculations were used to determine the estimated effluent formaldehyde concentration from flush treatments at Discharge Point 001. The calculations assume the flow from the raceways mixes completely with the volume of water in the settling basin and is discharged with no further concentration, breakdown, or dilution of formaldehyde.

Formalin usage (37% formaldehyde solution):

According to the Discharger, formalin used in flush treatments is applied at either low or high dosage treatment. Low dose treatment is applied for 8 hours at 25 ppm of formalin (9.25 ppm formaldehyde), while high dose treatment is applied for 1 hour at 167 to 250 ppm of formalin (61.79 to 92.5 ppm formaldehyde).

Flow and volume estimates:

Flow and volume calculations are similar as for those used for estimating effluent copper concentrations, with the total dilution volume of a 1-hour treatment at 14,235,551 gallons, or 53,887,422 liters (1 gallon = 3.7854118 liters).

The total dilution volume for an 8-hour treatment was calculated as the sum of the following (1 cfs = 26,930 gallons per hour):

- 4 rearing raceways = 4 cfs x 26,930 gal/hour x 8 hours x 4 raceways = 3,447,040 gallons
- Pond #1 = 3 cfs x 26,930 gallons/hour x 8 hours = 646,320 gallons
- 2 settling ponds = 13,723,881 gallons.

Total dilution volume for an 8-hour treatment = 4,991,022 gallons = 18,893,074 liters.

Estimate of formaldehyde concentrations at Discharge Point 001:

Total mass of formaldehyde applied in milligrams = (# rearing raceways treated) x (treatment time in hours) x (rearing raceway flow in cfs) x (26,930 gallons/hour) x (3.7854118 liters/gallon) x (formaldehyde concentration in mg/L)

Estimated final effluent concentration of formaldehyde (in mg/L) =
 Total mass of formaldehyde applied in milligrams / total dilution volume in liters

Treatment Type	Number of Rearing Raceways Treated with Formalin	Formaldehyde Concentration (mg/L)	Treatment Time in Hours	Total Mass of Formaldehyde Applied (mg)	Total Dilution Volume in Liters	Estimated Final Effluent Formaldehyde Concentration (mg/L)
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Treatment Type	Number of Rearing Raceways Treated with Formalin	Formaldehyde Concentration (mg/L)	Treatment Time in Hours	Total Mass of Formaldehyde Applied (mg)	Total Dilution Volume in Liters	Estimated Final Effluent Formaldehyde Concentration (mg/L)
Low Dose	1	9.25	8	30,174,577	67,445,593	0.447
	4	9.25	8	120,698,309	67,445,593	1.789
High Dose	1	92.5	1	37,718,222	53,887,422	0.700
	4	92.5	1	150,872,887	53,887,422	2.800

While there are no recommended criteria for formaldehyde for protection of aquatic life, the Basin Plan contains a narrative water quality objective for toxicity that states in part that “[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life” (narrative toxicity objective). Aquatic habitat is a beneficial use of the Los Angeles Aqueduct. The California Department of Fish and Game (DFG) Pesticide Investigation Unit conducted biotoxicity studies to determine the aquatic toxicity of formalin using *Pimephales promelas* and *Ceriodaphnia dubia* in accordance with the analytical methods specified in EPA600/4-91-002, *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*. These “short-term chronic tests” measure effects such as reduced growth of the organism, reduced reproduction rates, or lethality. Results were reported as a No Observed Effect Concentration (NOEC) and a Lowest Observed Effect Concentration (LOEC). The DFG Pesticide Investigation Unit also conducted acute toxicity tests using *Ceriodaphnia dubia* in accordance with methods specified in EPA600/4-90/027, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*. Acute toxicity test results typically are reported as the No Observed Adverse Effect Level (NOAEL), Lowest Observed Adverse Effect Level (LOAEL), and LC₅₀.

Results of chronic toxicity tests submitted by the DFG Pesticide Investigation Unit indicated *C. dubia* was the most sensitive species with a 7-day No Observable Effect Concentration (NOEC) value of 1.3 mg/L formaldehyde for survival and reproduction. Acute toxicity tests with *C. dubia* showed a 96-hour NOAEL of 1.3 mg/L. A summary of the data submitted follows:

Species	7-day LC ₅₀ (mg/L)	LOEC (mg/L)	NOEC (mg/L)	LOAEL (mg/L)	NOAEL (mg/L)
<i>Ceriodaphnia dubia</i>	2.4	5.8 ^a 1.3 ^b	1.3 ^a <1.3 ^b	5.8	1.3
<i>Pimephales promelas</i>	23.3	9.09	2.28	--	--
<i>Selenastrum capricornutum</i>	<5.2	--	--	--	--

- ^a Survival
- ^b Reproduction

Short-term tests were conducted with *C. dubia*, exposing the organisms for 2-hour and 8-hour periods, removing them from the chemical, and continuing the observation period for 7 days in clean water. The results were as follows:

Species	7-day LC ₅₀ (mg/L)	LOAEL (mg/L)	NOAEL (mg/L)
<i>C. dubia</i> —2-hour exposure	73.65	46.3	20.7
<i>C. dubia</i> —8-hour exposure	13.99	15.3	6.7

Results of both acute and chronic aquatic life toxicity testing conducted by the DFG Pesticide Investigation Unit were considered along with the Basin Plan narrative toxicity objective when determining whether water quality-based effluent limitations for formalin as formaldehyde were necessary. Results of 7-day chronic toxicity tests indicated *Ceriodaphnia dubia* was the most sensitive species, with a 7-day NOEC value of 1.3 mg/L formaldehyde for survival and < 1.3 mg/L for reproduction (the Regional Water Board used an NOEC of 1.3 mg/L). Acute toxicity tests conducted using *Ceriodaphnia dubia* showed a 96-hour NOAEL of 1.3 mg/L formaldehyde. The additional acute toxicity tests with *Ceriodaphnia dubia* conducted using only an 8-hour exposure, resulted in a 96-hour NOAEL concentration of 6.7 mg/L formaldehyde. Based on the results of these toxicity tests and estimates of potential discharges of formaldehyde from the Facility (ranging from 0.45 to 2.8 mg/L), if formalin is used at this Facility in the future at the estimated dose rates, formaldehyde may be discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of the narrative water quality objective for toxicity from the Basin Plan. Accordingly, this Order is establishing WQBELs for formaldehyde as described in the Section IV.C.4 of this Fact Sheet.

Chloramine-T

Chloramine-T (sodium p-toluenesulfonchloramide) is not currently used but may be used by the Discharger in the future as a possible alternative for formalin. The Discharger reports chloramine-T may be used as a flush or bath treatment at a concentration of 10 ppm for one hour. Chloramine-T is available for use in accordance with an INAD exemption by FDA. Chloramine-T breaks down into para-toluenesulfonamide (p-TSA) and, unlike other chlorine-based disinfectants, does not break down into chlorine or form harmful chlorinated compounds. The Discharger has not conducted biotoxicity tests using chloramine-T, however, results of toxicity testing from other sources show a 96-hour LC₅₀ for rainbow trout of 2.8 mg/L. The 48-hour NOEC for *Daphnia magna* was reported as 1.8 mg/L (Halamid. n.d. Halamid, Aquaculture <http://www.halamid.com/aqua.htm>).

Effluent data for chloramine-T are not available to assess the impact of chloramine-T use at the Facility. Therefore, the following information and calculations were used to estimate the effluent chloramine-T concentrations from flush treatments at Discharge Point 001.

The calculations assume the flow from the raceways mixes completely with the volume of water in the settling basin and is discharged with no further concentration, breakdown, or dilution of chloramine-T.

Flow and volume estimates:

Flow and volume calculations are same as for those used for estimating effluent copper concentrations, with the total dilution volume of a 1-hour treatment at 14,235,551 gallons, or 53,887,422 liters (1 gallon = 3.7854118 liters).

Estimate of chloramine-T concentrations at Discharge Point 001:

The Discharger has specified to the Regional Water Board that the maximum number of raceways treated per day with chloramine-T will be two.

Total mass of chloramine-T applied in milligrams = (# raceways treated) x (treatment time in hours) x (raceway flow in cfs) x (26,930 gallons/hour) x (3.7854118 liters/gallon) x (chloramine-T concentration in mg/L)

Estimated final effluent concentration of chloramine-T (in mg/L) =
 Total mass of chloramine-T applied in milligrams / total dilution volume in liters

Number of Rearing Raceways Treated with Chloramine-T	Chloramine-T Concentration in Treatment (mg/L)	Treatment Time in Hours	Total Mass of Chloramine-T Applied (mg)	Total Dilution Volume in Liters	Estimated Final Effluent Chloramine-T Concentration (mg/L)
1	10	1	4,077,646	53,887,422	0.08
2	10	1	8,155,291	53,887,422	0.15

As shown above, the estimated effluent chloramine-T concentrations ranged from 0.08 to 0.15 mg/L, but actual concentrations are likely to be lower as the calculations assume no breakdown of chloramine-T. Effluent concentrations could not be estimated from the disposal of bath treatment wastewaters as information regarding volumes and location of disposal (which affects dilution factors) was unavailable. However, as no other data are available, the estimated concentrations from flush treatments were used to determine reasonable potential. Therefore, based on available toxicity testing data and estimates of potential discharges of chloramine-T from flush treatments, if chloramine-T is used at this Facility in the future at the prescribed dose rates, chloramine-T will not be discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of the narrative water quality objective for toxicity from the Basin Plan. However, monitoring and the use of chloramine-T must be reported as specified in the Monitoring and Reporting Program (Attachment E).

In addition, results of toxicity tests for chloramine-T must be submitted within 12 months of adoption of this Order as specified in Section VI.C.2.b of this Order. The Regional Water Board will review this information, and other information as it becomes available and this Order may be reopened to revise effluent limitations based on additional use and toxicity information.

Potassium Permanganate

Potassium permanganate (also known by the trade name of Cairox™) is sometimes used at the Facility to control gill disease. Potassium permanganate has a low estimated lifetime in the environment, being readily converted by oxidizable materials to insoluble manganese dioxide (MnO₂). Potassium permanganate may be used at the Facility as a flush treatment at a rate of 2 ounces per cfs of raceway flow, for a total of three treatments spaced 10 to 15 minutes apart, or used in bath treatments of 2 ppm or less for one hour. Results of a single acute toxicity test conducted by the California Department of Fish and Game (DFG) Pesticide Investigation Unit using *C. dubia* showed a 96-hour NOAEL of 0.25 mg/L for potassium permanganate.

Effluent potassium permanganate data are not available to assess the impact of potassium permanganate use at the Facility. Therefore, the following information and calculations were used to determine the estimated effluent potassium permanganate concentration from flush treatments at Discharge Point 001. The calculations assume the flow from the raceways mixes completely with the volume of water in the settling basin and is discharged with no further concentration, breakdown, or dilution of potassium permanganate.

Flow and volume estimates:

Flow and volume estimates remain the same as for those used for estimating effluent copper concentrations, with the total dilution volume from 1 hour of flow at 14,235,551 gallons.

Estimate of potassium permanganate concentrations at Discharge Point 001:

1 ounce = 0.0625 pound

Estimated final effluent concentration of potassium permanganate (KMnO₄) (in ppm) = [(# raceways treated) x (3 treatments) x (2 ounces per cfs) x (flow in cfs) x (0.0625 lbs/ounce)] / [(Total dilution in gallons) x (8.34 pounds/gallon)] x 1,000,000

Number of Raceways Treated with Potassium Permanganate	Estimated Final Effluent Potassium Permanganate Concentration (ppm)
1	0.01
4	0.05

As shown above, the estimated effluent potassium permanganate concentrations from flush treatments ranged from 0.01 to 0.05 mg/L. Actual concentrations are likely to be lower as the calculations assumed no breakdown of potassium permanganate. Effluent concentrations could not be estimated from the disposal of bath treatment wastewaters as information regarding volumes and location of disposal (which affects dilution factors) was unavailable. However, effluent potassium permanganate concentrations from the disposal of bath treatments wastewater are likely to be even lower than the concentrations estimated for flush treatments, due to the smaller quantities of wastewater and low concentrations used in bath treatments (2 ppm).

Based on the estimated effluent concentrations and the toxicity information available at this time, the discharge of potassium permanganate at the Facility will not cause, have a reasonable potential to cause, or contribute to an in-stream excursion of applicable water quality criteria or objectives. However, monitoring of potassium permanganate and the use of potassium permanganate must be reported as specified in the Monitoring and Reporting Program (Attachment E). In addition, results of additional toxicity tests for potassium permanganate must be submitted within 12 months of adoption of this Order as specified in Section VI.C.2.b of this Order. The Regional Water Board will review this information, and other information as it becomes available and this Order may be reopened to establish effluent limitations based on additional use and toxicity information.

Hydrogen Peroxide

Hydrogen peroxide (35% H₂O₂) may be used in the future at the Facility. Hydrogen peroxide may be used as a raceway flush treatment at a concentration of 100 ppm or less, from 45 minutes to one hour. The FDA considers hydrogen peroxide to be an LRP drug when used to control fungi on fish at all life stages, including eggs. Hydrogen peroxide may also be used under an INAD exemption to control bacterial gill disease in various fish, fungal infections, external bacterial infections, and external parasites. Hydrogen peroxide is a strong oxidizer that breaks down into water and oxygen; however, it exhibits toxicity to aquatic life during the oxidation process. Results of a single acute toxicity test conducted by the DFG Pesticide Investigation Unit using *C. dubia* showed a 96-hour NOAEL of 1.3 mg/L.

Effluent hydrogen peroxide data are not available to assess the impact of hydrogen peroxide use at the Facility. Therefore, the following information and calculations were used to determine the estimated effluent hydrogen peroxide concentration from flush treatments at Discharge Point 001. The calculations assume the flow from the raceways mixes completely with the volume of water in the settling basin and is discharged with no further concentration, breakdown, or dilution of hydrogen peroxide.

Flow and volume estimates:

Flow and volume estimates remain the same as for those used for estimating effluent chloramine-T concentrations, with the total dilution volume from a 1-hour treatment at 14,235,551 gallons, or 53,887,422 liters (1 gallon = 3.7854118 liters).

Estimate of hydrogen peroxide concentrations at Discharge Point 001:

Total mass of hydrogen peroxide applied in milligrams = (# raceways treated) x (treatment time in hours) x (raceway flow in cfs) x (26,930 gallons/hour) x (3.7854118 liters/gallon) x (hydrogen peroxide concentration in mg/L)

Estimated final effluent concentration of hydrogen peroxide (in mg/L) = Total mass of hydrogen peroxide applied in milligrams / total dilution volume in liters

Number of Raceways Treated with H ₂ O ₂	H ₂ O ₂ Solution (35%) Treatment Conc. (mg/L)	H ₂ O ₂ Treatment Conc. (mg/L)	Treatment Time in Hours	Total Mass of H ₂ O ₂ Applied (mg)	Total Dilution Volume in Liters	Estimated Final Effluent H ₂ O ₂ Conc. (mg/L)
1	100	35	1	14,271,760	53,887,422	0.26
6	100	35	1	57,087,038	53,887,422	1.06

As shown above, the estimated effluent hydrogen peroxide concentrations ranged from 0.26 to 1.06 mg/L, but actual concentrations are likely to be lower as the calculations assume no breakdown of hydrogen peroxide.

Based on the estimated effluent concentrations and the toxicity information available at this time, the discharge of hydrogen peroxide at the Facility will not cause, have a reasonable potential to cause, or contribute to an in-stream excursion of applicable water quality criteria or objectives. However, use and monitoring of hydrogen peroxide must be reported as specified in the Monitoring and Reporting Program (Attachment E), and results of additional toxicity tests must be submitted within 12 months of adoption of this Order as specified in Section VI.C.2.b of this Order. The Regional Water Board will review this information, and other information as it becomes available and this Order may be reopened to establish effluent limitations based on additional use and toxicity information.

Sodium Chloride

Sodium chloride (salt) is used at the Facility raceways as a fish-cleansing agent to control the spread of fish disease and to reduce stress among the confined fish population. The U.S. Food and Drug Administration (FDA) considers sodium chloride an unapproved new animal drug of low regulatory priority (LRP drug) for use in aquaculture. Consequently, FDA is unlikely to take regulatory action if an appropriate grade is used, good management practices are followed, and local environmental requirements are met. There are no numeric water quality objectives for conductivity, TDS, or chloride in the NTR, CTR, or Basin Plan for the Los Angeles Aqueduct. The Basin Plan does contain a narrative objective for chemical constituents that states “Waters designated as AGR shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes).” *Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1* (R.S. Ayers and D.W. Westcot, Rome, 1985), recommends that the conductivity level in waters used for agricultural irrigation not exceed 700 µmhos/cm (Agricultural

Water Quality Goal) because it will reduce crop yield for sensitive plants. The Agricultural Water Quality Goals for TDS, chloride, and sodium are 450, 106 and 69 mg/L, respectively. USEPA's recommended ambient water quality criteria for chloride for the protection of freshwater aquatic life are 230 mg/L as a one-hour average, and 860 mg/L as a four-day average. The USEPA and State of California Department of Health Services (DHS) Secondary MCL for chloride is 250 mg/L.

Because dissolved ions in water increase conductivity, the measures of TDS, chloride ion, and conductivity are related. Based on effluent TDS monitoring data (ranging from 66 to 153 mg/L, well below the TDS Agricultural Water Quality Goal of 450 mg/L), the discharge of sodium chloride from the Facility will not cause, have a reasonable potential to cause, or contribute to an in-stream excursion of applicable water quality criteria or objectives. Monitoring of TDS will be continued and monthly use of sodium chloride must be reported as specified in the Monitoring and Reporting Program in Attachment E. In addition, monitoring of conductivity, which is already performed for receiving water monitoring, will be added to the effluent monitoring requirements in order to better assess and quantify the impact of sodium chloride usage on the discharge.

Antibiotics: Amoxicillin, Erythromycin, Florfenicol, Oxytetracycline, Penicillin G Potassium, and Sulfadimethoxine-ormetoprim (Romet-30®)

Florfenicol, oxytetracycline, and Romet-30® (sulfadimethoxine-ormetoprim) are antibiotics that may potentially be used by the Discharger in feed formulations to control acute disease outbreaks. Erythromycin (injected or used in feed formulations) and amoxicillin (injected) also are antibiotics that may be used to control disease. These antibiotics must be used under conditions in the NADA approval (oxytetracycline and Romet-30®) or an INAD exemption or a veterinarian's prescription for extra-label use. In the NPDES General Permit for Aquaculture Facilities in Idaho (Idaho General Permit), USEPA Region 10 distinguishes between antibiotics applied in feed formulations and antibiotics applied in immersion baths. The Idaho General Permit concludes that drugs or chemicals administered via feed, and ingested by fish, pose little threat to aquatic life or beneficial uses because a majority of the drug is utilized by the fish, though some literature suggests otherwise. As stated in the Idaho General Permit, "USEPA believes that disease control drugs and other chemicals provided for ingestion by fish do not pose a risk of harm or degradation to aquatic life or other beneficial uses." Based on similar conclusions as those drawn by USEPA for the Idaho General Permit, the Regional Water Board has determined that oxytetracycline, Romet-30®, and florfenicol, (when used in feed formulations), erythromycin (when injected or used in feed formulations) and amoxicillin (when injected) are used in a manner that reduces the likelihood of direct discharge to waters of the United States or waters of the State, particularly when Dischargers implement BMPs, as required by this Order. Therefore, oxytetracycline, Romet-30®, and florfenicol, (when used in feed formulations), erythromycin (when injected or used in feed formulations) and amoxicillin (when injected) are not likely to be discharged from the Facility at levels that would cause, have the reasonable potential to cause, or contribute to an excursion of Basin Plan narrative water quality objectives for toxicity. Based on the conclusions stated above, this Order does not include water quality-based effluent limitations or effluent monitoring requirements for florfenicol, oxytetracycline, Romet-

30®, erythromycin, or amoxicillin when used in feed formulations or injected directly into fish.

The hatchery may periodically use the antibiotics oxytetracycline and penicillin G potassium as therapeutic agents in bath treatments to control fish diseases. Penicillin G potassium is not approved under FDA's NADA program and its' extra-label use in aquaculture requires a veterinarian's prescription. Results of acute toxicity tests conducted by the DFG Pesticide Investigation Unit using *C. dubia* showed a 96-hour NOAEL of 890 mg/L. Results of 7-day chronic toxicity testing using *Pimephales promelas* showed 7-day NOEC for survival of 350 mg/L. Oxytetracycline, also known by the brand name Terramycin®, is an antibiotic approved through FDA's NADA program for use in controlling ulcer disease, furunculosis, bacterial hemorrhagic septicemia, and pseudomonas disease in Salmonids. Oxytetracycline is most commonly used at CAAP facilities as a feed additive. However, oxytetracycline may also be used as an extra-label use under a veterinarian's prescription in an immersion bath of approximately six to eight hours in duration. Results of acute toxicity tests conducted by the DFG Pesticide Investigation Unit using *C. dubia* showed a 96-hour NOAEL of 40.4 mg/L. Results of chronic toxicity tests using *C. dubia* showed a 7-day NOEC for reproduction of 48 mg/L. However, there is no information regarding actual or estimated discharge concentrations of oxytetracycline and penicillin G potassium used in bath treatments to determine reasonable potential. Therefore, this Order does not include water quality-based effluent limitations for oxytetracycline or penicillin G potassium. However, use and monitoring of these substances must be reported as specified in the Monitoring and Reporting Program (Attachment E). In addition, toxicity testing data for oxytetracycline and penicillin G potassium must be submitted within 12 months of adoption of this Order as specified in Section VI.C.2.b of this Order.

The Regional Water Board will review this information, and other information as it becomes available and this Order may be reopened to establish effluent limitations based on additional use and toxicity information.

MS-222 and Isoeugenol (Aqui-S®)

In the future, the Discharger may use the anesthetics tricaine methanesulfonate, commonly known as MS-222 (with trade names of Finquel® or Tricaine-S®) and isoeugenol (Aqui-S®) in bath treatments. MS-222 has been approved by FDA for use as an anesthetic for Salmonidae. It is intended for the temporary immobilization of fish, amphibians and other aquatic, cold-blooded animals. It has been recognized as a valuable tool for the proper handling of these animals during manual spawning (fish stripping), weighing, measuring, marking, surgical operations, transport, photography, and research. MS-222 is a crystalline powder used as an immersion bath in an enclosed tub. Aqui-S® is a water dispersible liquid anesthetic for fin fish, crustacea and shell fish and is used in the United States under an INAD exemption.

Since the Regional Water Board does not have specific toxicity information for MS-222 or Aqui-S®, or estimates of potential discharge concentrations of MS-222 and Aqui-S® at

this Facility, this Order does not include water quality-based effluent limitations for these anesthetics. However, use and monitoring of MS-222 and Aqui-S® must be reported as specified in the Monitoring and Reporting Program (Attachment E). In addition, toxicity testing data for MS-222 and Aqui-S® must be submitted within 12 months of adoption of this Order as specified in Section VI.C.2.b of this Order.

The Regional Board will review this information, and other information as it becomes available and this Order may be reopened to establish effluent limitations based on additional use and toxicity information.

PVP Iodine

PVP Iodine (polyvinylpyrrolidone iodine), is an iodophor solution composed of 10% PVP iodine complex and 90% inert ingredients, may be used at the Facility in the future as a fish egg disinfectant (fungicide) in bath treatments. FDA considers PVP iodine an LRP drug for use in aquaculture. Results of a single acute toxicity test with *Ceriodaphnia dubia* showed a 96-hour NOAEL of 0.86 mg/L.

Since the Regional Water Board does not have actual or estimated discharge concentrations of PVP iodine at this Facility to determine reasonable potential, this Order does not include water quality-based effluent limitations for this substance. However, use and monitoring of PVP iodine must be reported as specified in the Monitoring and Reporting Program (Attachment E). In addition, toxicity testing data for PVP iodine must be submitted within 12 months of adoption of this Order as specified in Section VI.C.2.b of this Order.

The Regional Board will review this information, and other information as it becomes available and this Order may be reopened to establish effluent limitations based on additional use and toxicity information.

Acetic Acid, Carbon Dioxide and Sodium Bicarbonate

The Discharger reports that acetic acid may be used at the Facility for the control of external parasites as flush and/or bath treatments. Carbon dioxide gas may be used in bath treatments to anesthetize fish prior to spawning. Sodium bicarbonate, or baking soda, may also be used as in bath treatments as a means of introducing carbon dioxide into the water to anesthetize fish. FDA considers these substances LRP drugs for use in aquaculture. Based upon available information regarding the use of these substances at CAAP facilities in the Region, the Regional Water Board does not believe that acetic acid, carbon dioxide gas, or sodium bicarbonate will be discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of Basin Plan narrative water quality objectives for toxicity.

While the discharge of acetic acid, carbon dioxide, or sodium bicarbonate may affect the pH of the receiving water, current effluent and receiving water limitations for pH are adequate to ensure that any potential discharges of acetic acid, carbon dioxide, or sodium bicarbonate do not impact water quality (in addition, carbon dioxide gas added to water will quickly equilibrate with atmospheric carbon dioxide with aeration). However, the use

of these substances must be reported as specified in the Monitoring and Reporting Program (Attachment E). In the future, if additional information becomes available regarding the use or toxicity of acetic acid, carbon dioxide gas, or sodium bicarbonate, the Regional Water Board will re-evaluate whether the discharge of any of these substances to receiving waters may cause, have the reasonable potential to cause, or contribute to an excursion of the Basin Plan objectives for toxicity and, if necessary, re-open this Order to include numeric effluent limitations.

Aquatic Pesticide Usage

As described earlier, the Discharger intends to apply the following aquatic pesticides in Pond # 1 to control weeds and algae: Reward®, AquaMaster™, Sonar™, and Renovate3®. Ingredients identified in these aquatic pesticides are listed in the table below.

Product Name	Ingredients
Reward®	Diquat dibromide
AquaMaster™	Isopropylamine salt of glyphosate
Sonar™	Fluridone
	Propylene glycol
Renovate3®	Triclopyr
	Ethanol
	Triethylamine (N,N-Diethylethanamine)
	Ethylenediaminetetraacetic Acid (EDTA)

State Water Resources Control Board General Permit No. CAG990005, Order No. 2004-0009-DWQ (hereinafter Aquatic Pesticides General Permit), addresses the discharge of aquatic pesticides related to the application 2,4-D, acrolein, copper, diquat, endothall, fluridone, glyphosate, and triclopyr-based aquatic pesticides to surface waters for the control of aquatic weeds. This Order incorporates requirements of the Aquatic Pesticides General Permit, as related to the use of diquat dibromide, glyphosate, fluridone, and triclopyr.

The Aquatic Pesticides General Permit contains the following receiving water limitations for diquat dibromide, glyphosate, and fluridone are based on USEPA Primary Maximum Contaminant Levels (MCLs) and IRIS reference dose, which are protective of municipal and domestic water supply (MUN) beneficial uses.

Parameter	Receiving Water Limitation	Basis of Limitation
Diquat	20 µg/L	Primary MCL
Fluridone	560 µg/L	IRIS
Glyphosate	700 µg/L	Primary MCL

The Aquatic Pesticides General Permit does not contain receiving water limitations for triclopyr, as there currently are no State or USEPA based numeric objectives or criteria for this pesticide.

Using the applicable receiving water limitations in the Aquatic Pesticides General Permit and the procedure in USEPA's TSD, this Order is establishing WQBELs for diquat, fluridone, and glyphosate, as described in the Section IV.C.4 of this Fact Sheet.

Analysis of Technology-based Effluent Limitations

In addition to carrying over numeric technology-based requirements based on BPJ, the Regional Water Board considered the need for water quality-based limitations for pH, TSS and settleable solids. The Regional Water Board determined that the numeric technology-based pH, TSS and settleable solids limitations, along with the aquaculture ELG BMP requirements, are sufficient to ensure attain and maintain water quality objectives applicable to the Los Angeles Aqueduct for pH, suspended materials, and settleable materials.

4. WQBEL Calculations

Copper

Effluent limitations for metals must be expressed as a total recoverable concentration. Since a site-specific translator has not been developed for copper as described in the SIP Section 1.4.1, the USEPA conversion factor for copper of 0.960 was used for translating the dissolved copper criterion into a total recoverable effluent concentration allowance (ECA) with no dilution. The Regional Water Board established both an Average Monthly Effluent Limitation (AMEL) and Maximum Daily Effluent Limitation (MDEL) for copper based on procedures outlined in the SIP.

Once the need for effluent limitations for CTR priority pollutants has been established, the SIP requires the following steps to determine specific limitations. The tables in Attachment H summarize the development and calculation of all WQBELs for this Order using the process described below.

- A set of AMEL and MDEL values are calculated separately, one set for the protection of aquatic life and the other for the protection of human health. The AMEL and MDEL limitations for aquatic life and human health are compared, and the most restrictive AMEL and the most restrictive MDEL are selected as the WQBEL.

Calculation of Aquatic Life AMEL and MDEL:

- For each water quality criterion/objective, an effluent concentration allowance (ECA) is calculated from the following equation to account for dilution, and background levels of each pollutant.

$ECA = C + D(C - B)$, where C is the converted/adjusted water quality criterion, D is the dilution credit, and B is the ambient background concentration.

The SIP permits an allowance for dilution only after characterization of the receiving water flow by the Discharger to determine a dilution ratio and/or whether or not a

dilution credit is appropriate. In this Order, no credit is being allowed for dilution, and the ECA equals C.

For aquatic life criteria: $ECA_{acute} = 11.08 \mu\text{g/L}$
 $ECA_{chronic} = 7.54 \mu\text{g/L}$

- For each ECA based on an aquatic life criterion, the long-term average discharge condition (LTA) is determined by multiplying the ECA times a factor (a multiplier) to account for effluent variability. The LTA is a target of treatment performance.
- LTA multipliers are determined based on a coefficient of variation (CV) and on a specified probability of occurrence. The CV is a measure of the variability of a set of data; and in the analysis for this facility, because there were fewer than 10 data points, the CV was set equal to a default value of 0.6. The LTA multipliers are based on the following equations:

$$LTA_a = ECA_a \times \exp(0.5\sigma^2 - z\sigma)$$

$$LTA_c = ECA_c \times \exp(0.5\sigma_4^2 - z\sigma_4)$$

where

σ = standard deviation

CV = coefficient of variation (where $\sigma^2 = \ln(CV^2 + 1)$)

(CV = 0.6 where less than 10 data points are available)

z = z-statistic for 95th percentile probability and 99th percentile probability

ECA_a = acute effluent concentration allowance

ECA_c = chronic effluent concentration allowance

LTA_a = acute long-term average

LTA_c = chronic long-term average

From Table 1 of the SIP, the ECA multipliers for calculating LTAs at the 99th percentile occurrence probability for copper are 0.321 (acute multiplier) and 0.527 (chronic multiplier).

$$LTA_a = ECA_a \times \text{Multiplier}_{acute} = 11.08 \mu\text{g/L} \times 0.321 = 3.557 \mu\text{g/L}$$

$$LTA_c = ECA_c \times \text{Multiplier}_{chronic} = 7.54 \mu\text{g/L} \times 0.527 = 3.979 \mu\text{g/L}$$

- Using the most limiting (the lowest) LTA, water quality based effluent limitations (WQBELs) are calculated. WQBELs include an average monthly effluent limitation (AMEL) and a maximum daily effluent limitation (MDEL). The equations used to calculate these limitations are as follows:

$$LTA = \min(LTA_a, LTA_c)$$

$$AMEL = LTA \times \exp(z\sigma_n - 0.5\sigma_n^2)$$

$$MDEL = LTA \times \exp(z\sigma - 0.5\sigma^2)$$

where

LTA_a = acute long-term average

LTA_c = chronic long-term average

LTA = Most stringent long-term average

σ = Standard deviation

CV = coefficient of variation (where $\sigma^2 = \ln(CV^2 + 1)$)

(CV = 0.6 where less than 10 data points are available)

z = z-statistic for 95th percentile probability (AMEL) and 99th percentile probability (MDEL)

n = number of samples per month

AMEL = average monthly effluent limitation

MDEL = maximum daily effluent limitation

AMELs and MDELs are calculated by multiplying the most limiting LTA for each pollutant times a multiplier that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. Here, the CV was set equal to the default value of 0.6 (CV = 0.6) and the sampling frequency was set equal to 4 ($n = 4$). A 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier is 3.11, and the AMEL multiplier is 1.55.

$$LTA = LTA_a = 3.557 \mu\text{g/L}$$

$$AMEL_{\text{aquatic life}} = LTA \times AMEL_{\text{multiplier}} = 3.557 \times 1.55 = 5.5 \mu\text{g/L}$$

$$MDEL_{\text{aquatic life}} = LTA \times MDEL_{\text{multiplier}} = 3.557 \times 3.11 = 11.1 \mu\text{g/L}$$

Calculation of Human Health AMEL and MDEL:

- For the ECA based on human health, the AMEL is set equal to the $ECA_{\text{human health}}$

$$AMEL_{\text{human health}} = ECA_{\text{human health}} = 1,300 \mu\text{g/L}$$

- The MDEL for human health is calculated by multiplying the AMEL by the ratio of the $\text{Multiplier}_{\text{MDEL}}$ to the $\text{Multiplier}_{\text{AMEL}}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples. As before, the CV was set equal to the default value of 0.6 (CV = 0.6) and the sampling frequency was set equal to 4 ($n = 4$). Using these values the MDEL multiplier is 3.11, and the AMEL multiplier is 1.55.

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} \times (\text{Multiplier}_{\text{MDEL}} / \text{Multiplier}_{\text{AMEL}})$$

$$\text{MDEL}_{\text{human health}} = 1,300 \mu\text{g/L} \times (3.11/1.55) = 2,608 \mu\text{g/L}$$

Determination of Final WQBELs:

- The lower AMEL and MDEL based on aquatic life and human health is selected as the WQBEL.

AMEL _{aquatic life}	MDEL _{aquatic life}	AMEL _{human health}	MDEL _{human health}
5.5 μg/L	11.1 μg/L	1,300 μg/L	2,608 μg/L

The final AMEL of **5.5 μg/L** and MDEL of **11.1 μg/L** for copper are based on limitations protective of aquatic life.

Formaldehyde

Effluent concentrations of formaldehyde may persist because of potential application procedures (e.g., successive raceway treatments) and due to retention of effluent in the settling basin. Therefore, both an average monthly effluent limitation and a maximum daily effluent limitation were calculated based on the 96-hour NOAEL value and using the procedure in USEPA’s TSD for calculating water quality-based effluent limitations.

The Regional Water Board calculated the AMEL and MDEL for formaldehyde, using the calculations and methods described previously for deriving the effluent limitations for copper.

Assuming:

- No in-stream dilution allowance.
- Coefficient of Variation (CV) = 0.6 for the lognormal distribution of pollutant concentrations in effluent.

Effluent Concentration Allowances (ECA) based on NOAEL (acute toxicity) and NOEC (chronic toxicity) for C. dubia, with no dilution allowance

$$\text{ECA}_{\text{acute}} = 1.3 \text{ mg/L}$$

$$\text{ECA}_{\text{chronic}} = 1.3 \text{ mg/L}$$

Long Term Average concentration based on acute ECA

$$\text{LTA}_{\text{acute}} = 1.3 \text{ mg/L} \times 0.321 = 0.4173 \text{ mg/L}$$

(where 0.321 = acute ECA multiplier at 99% occurrence probability and 99% confidence)

Long Term Average concentration based on chronic ECA

$LTA_{\text{chronic}} = 1.3 \text{ mg/L} \times 0.527 = 0.6851 \text{ mg/L}$
(where 0.527 = chronic ECA multiplier at 99% occurrence probability and 99% confidence)

Most Limiting LTA concentration based on acute LTA

$LTA = 0.4173 \text{ mg/L}$

Average Monthly Effluent Limitation

$AMEL = LTA \times 1.55$
(where 1.55 = AMEL multiplier at 95% occurrence probability, 99% confidence, and $n = 4$)

AMEL = 0.4173 mg/l x 1.55 = 0.65 mg/L

Maximum Daily Effluent Limitation

$MDEL = LTA \times 3.11$
(where 3.11 = MDEL multiplier at 99% occurrence probability and 99% confidence)

MDEL = 0.4173 mg/l x 3.11 = 1.3 mg/L

These effluent limitations have been established for protection of aquatic life against toxic effects from exposure to formaldehyde in the discharge.

Diquat

Effluent concentrations of diquat may persist because of potential application procedures (e.g., successive pesticide applications) and due to retention of effluent in the settling basin. Therefore, both an average monthly effluent limitation and a maximum daily effluent limitation were calculated based on the MCL for diquat and using the procedure in USEPA's TSD for calculating water quality-based effluent limitations.

The Regional Water Board calculated the AMEL and MDEL for diquat, using the calculations and methods described previously for deriving the effluent limitations for copper.

Assuming:

- No in-stream dilution allowance.
- Coefficient of Variation (CV) = 0.6 for the lognormal distribution of pollutant concentrations in effluent.

Calculation of Human Health AMEL and MDEL:

Average Monthly Effluent Limitation

The Effluent Concentration Allowance (ECA) is based on the MCL with no dilution allowance.

$$ECA = 20 \mu\text{g/L}$$

For protection of human health, the AMEL is set equal to the $ECA_{\text{human health}}$.

$$AMEL_{\text{human health}} = ECA_{\text{human health}} = \mathbf{20 \mu\text{g/L}}$$

Maximum Daily Effluent Limitation

The MDEL for human health is calculated by multiplying the AMEL by the ratio of the $\text{Multiplier}_{\text{MDEL}}$ to the $\text{Multiplier}_{\text{AMEL}}$. With the CV was set equal to the default value of 0.6 ($CV = 0.6$), and the sampling frequency was set equal to 4 ($n = 4$), the MDEL multiplier is 3.11, and the AMEL multiplier is 1.55.

$$MDEL_{\text{human health}} = LTA \times (3.11/1.55) = 20 \mu\text{g/L} \times 2.006451 = \mathbf{40.1 \mu\text{g/L}}$$

The final AMEL of $\mathbf{20 \mu\text{g/L}}$, and MDEL of $\mathbf{40.1 \mu\text{g/L}}$ for diquat are based on limitations protective of human health.

Fluridone

Effluent concentrations of fluridone may persist because of potential application procedures (e.g., successive pesticide applications) and due to retention of effluent in the settling basin. Therefore, both an average monthly effluent limitation and a maximum daily effluent limitation were calculated based on the IRIS reference dose for fluridone and using the procedure in USEPA's TSD for calculating water quality-based effluent limitations.

The Regional Water Board calculated the AMEL and MDEL for fluridone using the calculations and methods described previously for deriving the effluent limitations for copper.

Assuming:

- No in-stream dilution allowance.
- Coefficient of Variation (CV) = 0.6 for the lognormal distribution of pollutant concentrations in effluent.

Calculation of Human Health AMEL and MDEL:

Average Monthly Effluent Limitation

The Effluent Concentration Allowance (ECA) is based on the IRIS reference dose with no dilution allowance.

$$ECA = 560 \mu\text{g/L}$$

For protection of human health, the AMEL is set equal to the $ECA_{\text{human health}}$.

$$AMEL_{\text{human health}} = ECA_{\text{human health}} = \mathbf{560 \mu\text{g/L}}$$

Maximum Daily Effluent Limitation

The MDEL for human health is calculated by multiplying the AMEL by the ratio of the $\text{Multiplier}_{\text{MDEL}}$ to the $\text{Multiplier}_{\text{AMEL}}$. With the CV was set equal to the default value of 0.6 (CV = 0.6), and the sampling frequency was set equal to 4 (n = 4), the MDEL multiplier is 3.11, and the AMEL multiplier is 1.55.

$$MDEL_{\text{human health}} = LTA \times (3.11/1.55) = 560 \mu\text{g/L} \times 2.006451 = \mathbf{1,123 \mu\text{g/L}}$$

The final AMEL of **560 $\mu\text{g/L}$** , and MDEL of **1,123 $\mu\text{g/L}$** for fluridone are based on limitations protective of human health.

Glyphosate

Effluent concentrations of glyphosate may persist because of potential application procedures (e.g., successive pesticide applications) and due to retention of effluent in the settling basin. Therefore, both an average monthly effluent limitation and a maximum daily effluent limitation were calculated based on the MCL for glyphosate and using the procedure in USEPA's TSD for calculating water quality-based effluent limitations.

The Regional Water Board calculated the AMEL and MDEL for glyphosate using the calculations and methods described previously for deriving the effluent limitations for copper.

Assuming:

- No in-stream dilution allowance.
- Coefficient of Variation (CV) = 0.6 for the lognormal distribution of pollutant concentrations in effluent.

Calculation of Human Health AMEL and MDEL:

Average Monthly Effluent Limitation

The Effluent Concentration Allowance (ECA) is based on the MCL with no dilution allowance.

$$ECA = 700 \mu\text{g/L}$$

For protection of human health, the AMEL is set equal to the $ECA_{\text{human health}}$.

$$AMEL_{\text{human health}} = ECA_{\text{human health}} = \mathbf{700 \mu\text{g/L}}$$

Maximum Daily Effluent Limitation

The MDEL for human health is calculated by multiplying the AMEL by the ratio of the $\text{Multiplier}_{\text{MDEL}}$ to the $\text{Multiplier}_{\text{AMEL}}$. With the CV was set equal to the default value of 0.6 (CV = 0.6), and the sampling frequency was set equal to 4 (n = 4), the MDEL multiplier is 3.11, and the AMEL multiplier is 1.55.

$$MDEL_{\text{human health}} = LTA \times (3.11/1.55) = 700 \mu\text{g/L} \times 2.006451 = \mathbf{1,404 \mu\text{g/L}}$$

The final AMEL of **700 $\mu\text{g/L}$** , and MDEL of **1,404 $\mu\text{g/L}$** for glyphosate are based on limitations protective of human health.

**Summary of Water Quality-based Effluent Limitations
 Discharge Point 001**

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	5.5	11.1	--	--
Diquat	µg/L	20	40.1	--	--
Fluridone	µg/L	560	1,123	--	--
Formaldehyde	mg/L	0.65	1.3	--	--
Glyphosate	µg/L	700	1,404	--	--

5. Whole Effluent Toxicity (WET)

The Basin Plan specifies a narrative objective for toxicity, requiring that “All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Regional Water Board. The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for “experimental water” as defined in Standard Methods for the Examination of Water and Wastewater (American Public Health Association, et al. 1992).

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters.

Numeric water quality criteria, or Basin Plan numeric objectives currently are not available for most of the aquaculture drugs and chemicals used by the Discharger or proposed for use at this facility. Therefore, the Regional Water Board used the narrative water quality objective for toxicity from the Basin Plan as a basis for determining “reasonable potential” for discharges of these drugs and chemicals. USEPA’s *Technical Support Document Water Quality-based Toxics Control* (TSD) specifies two toxicity measurement techniques that can be employed in effluent characterization; the first is Whole Effluent Toxicity (WET) testing, and the second is chemical-specific toxicity analyses. Whole effluent toxicity (WET) requirements protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and generally measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, growth, or other sub-lethal effects. WET testing is used most appropriately when the toxic constituents in an effluent are not completely known; whereas chemical-specific analysis is more appropriately used when an effluent contains only one, or very few, well-known constituents.

Due to the nature of operations and chemical treatments at this Facility, there is a low probability that the effluent will have unknown constituents. Generally, the effluent is expected to contain only one or two known chemicals at any given time. Therefore, the Regional Water Board is using a chemical-specific approach to determine “reasonable potential” for discharges of aquaculture drugs and chemicals.

D. Final Effluent Limitations

Section 402(o) of the Clean Water Act and 40 section CFR 122.44(l) require that, with some exceptions, effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Order. As described in Section IV.B.2 of this Fact Sheet, effluent limitations for pH, TSS and settleable solids are being carried over from Order No. 6-99-53, though in the case of TSS and settleable solids, the quarterly limitations are being revised to be expressed as average monthly effluent limitations. Removal of numeric limitations for pH, TSS and settleable solids would constitute backsliding under CWA Section 402(o). The Regional Water Board has determined that these numeric effluent limitations continue to be applicable to the Facility and that backsliding is not appropriate. The effluent limit for TSS was clarified to mg/L net over levels in influent. This Order is establishing new effluent limitations for copper, chloramine-T, and formaldehyde as the Facility's discharge was found to have reasonable potential to exceed water quality objectives for copper and toxicity. In addition, this Order is incorporating the receiving water limitation requirements for diquat, fluridone, and glyphosate in the Aquatic Pesticides General Order by establishing new effluent limitations for these aquatic pesticides.

**Summary of Final Effluent Limitations
 Discharge Point 001**

Constituent	Units	Effluent Limitations				Basis
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Copper, Total Recoverable	µg/L	5.5	11.1	--	--	CTR, SIP
Diquat	µg/L	20	40.1	--	--	Aquatic Pesticides General Order ¹
Fluridone	µg/L	560	1,123	--	--	Aquatic Pesticides General Order ¹
Formaldehyde	mg/L	0.65	1.3	--	--	Basin Plan
Glyphosate	µg/L	700	1,404	--	--	Aquatic Pesticides General Order ¹
pH	standard units	--	--	6.0	9.0	Previous Order
Total Suspended Solids (TSS) ²	mg/L	6.0	--	--	15.0	Previous Order
Settleable Solids	ml/L	0.1	--	--	--	Previous Order

¹ State Water Resources Control Board General Permit No. CAG990005, Order No. 2004-0009-DWQ

² Limit is mg/L net over levels in influent

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications

The Discharger is allowed to use wastewater from this Facility for onsite irrigation as long as the discharge is not found to cause a pollution or nuisance.

G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Lahontan Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 CFR § 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in this Order are included to ensure protection of beneficial uses of the receiving water.

The narrative objective for chemical constituents in the Basin Plan states that “Waters shall not contain concentrations of chemicals that adversely affect the water beneficial uses.” The receiving water has the beneficial use of municipal and domestic supply (MUN). USEPA and the State of California Department of Health Services (DHS) does not have a Maximum Containment Level (MCL) for formaldehyde, however the DHS Drinking Water Action Level is listed as 0.1 mg/L. The USEPA Integrated Risk Information System (IRIS) lists a reference dose of 1.4 mg/L as a drinking water level. The National Academy of Sciences’ Suggested No-Adverse-Response Level (SNARL) for formaldehyde is 1.0 mg/L as a drinking water health advisory level. To protect the beneficial use of municipal and domestic supply (MUN) of the receiving water, a receiving water limitation based on the DHS Drinking Water Action Level of 0.1 mg/L has been established in this Order.

B. Groundwater – Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this facility.

A. Influent Monitoring

As only the TSS limit is expressed as net limitations (where influent concentrations are subtracted from the effluent concentrations), all influent monitoring requirements are being removed from this Order.

B. Effluent Monitoring

To demonstrate compliance with effluent limitations established in this Order and to assess the impact of the discharge on the beneficial uses of the receiving water, effluent monitoring for TDS, dissolved oxygen, settleable solids, TSS, nitrate, total nitrogen, orthophosphate, and temperature, required in the previous Order, are being carried over to this Order. The requirement from the previous Order to collect *all* samples “during a periodic cleaning operation or during some other operational mode which increases the discharges of suspended matter,” is being carried over only for the monitoring of settleable solids and total suspended solids. This is because the monitoring of other parameters, such as the monitoring of aquaculture drugs and chemicals during their use, may not coincide with cleaning operations.

In addition, the requirement to collect two grab samples (grab pairs collected not less than two hours, nor greater than four hours apart) for settleable solids and TSS are being carried over to this Order to better assess the range of solids concentrations during cleaning operations as well as to determine compliance with monthly average limitations. Other parameters previously requiring grab pair sampling will now be required to be sampled with only one grab sample in this Order, as historical data showed little variation in concentrations between the grab pair samples for these parameters. Therefore continued grab pair sampling was considered unnecessary for these parameters as the data did not provide any additional information.

As discussed in detail in Section IV.C.5 of this Fact Sheet, the Regional Water Board has determined that a chemical-specific approach to be the most appropriate measurement technique for effluent toxicity characterization at the Facility. Therefore, effluent monitoring of aquaculture chemicals is required in order to determine compliance with effluent limitations as well as determine whether discharges of aquaculture drugs and chemicals from the Facility may cause or contribute to an excursion of the Basin Plan narrative objectives for chemical constituents and toxicity.

To demonstrate compliance with the effluent limitations established in this Order for aquatic pesticides, effluent monitoring is required for diquat, fluridone, and glyphosate when used at the Facility. Effluent monitoring for triclopyr and nonylphenol is also being established in this Order when they are used at the Facility, which are requirements in the Aquatic Pesticides General Permit. In addition, effluent monitoring for the ingredients in Renovate3® (ethanol, triethylamine, and EDTA) and Sonar™ (propylene glycol) are required when the corresponding herbicide is used, in order to better assess the impact of the discharge on the beneficial uses of the receiving water.

Section 1.3 of the SIP requires periodic monitoring for priority pollutants (at least once prior to the issuance and reissuance of a permit) for which criteria or objectives apply and for which no effluent limitations have been established. However, the Regional Water Board may choose to exempt low volume discharges, determined to have no significant adverse impact on water quality, from this monitoring requirement. As described in Section IV.C.3 of this Fact Sheet, except for copper, the RPA of the priority pollutants did not demonstrate reasonable potential to exceed applicable water quality criteria. Based on this information, as well as priority pollutant monitoring data from other similar hatchery facilities, the Regional Water Board has determined that discharges of priority pollutants from the Facility have no significant adverse impact on water quality, except for copper when copper sulfate is used at the Facility. Therefore, priority pollutant monitoring will not be required in this Order, except for copper monitoring when copper sulfate is used at the Facility.

C. Whole Effluent Toxicity Testing Requirements – Not Applicable

D. Receiving Water Monitoring

1. Surface Water

To demonstrate compliance with receiving water limitations established in the Basin Plan and to assess the impact of the discharge to the beneficial uses of the receiving water, upstream and downstream receiving water monitoring required in the previous Order for conductivity, dissolved oxygen, pH, and temperature are being carried over to this Order. The downstream monitoring location is being changed from 25 feet to 50 feet downstream of the location where the discharge enters the Los Angeles Aqueduct, to ensure that adequate mixture of the effluent and receiving waters has occurred prior to the monitoring location. Monitoring requirements for copper and formaldehyde during their use at the facility are being established in this Order to assess impacts to the receiving water.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements – Not Applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order.

B. Special Provisions

1. Reopener Provisions

Conditions that necessitate a major modification of a permit are described in 40 CFR §122.62, which include the following:

- (a) *When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision.* Therefore, if more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
- (b) *When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.* The Discharger is required to report on usage of drugs and chemicals for which discharge is authorized by this Order. New information on usage or toxicity of drugs or chemicals used at the Facility may justify reopening and modifying this Order.
- (c) *When facility alterations or changes in operations justify new conditions that are different from the existing permit.* The discharge of a new drug or chemical that is found to have reasonable potential to cause, or contribute to an in-stream excursion above any chemical-specific water quality criteria, narrative water quality objective for chemical constituents from the Basin Plan, or narrative water quality objective for toxicity from the Basin Plan, would be considered a change in facility operations that requires reopening this Order to establish new effluent limitations.

2. Special Studies and Additional Monitoring Requirements

As described in Section IV.B.1 of this Fact Sheet, the final ELG includes the following reporting and narrative requirements for CAAP facilities that are subject to 40 CFR Part 451, and have been incorporated into this Order:

- Must notify the permitting authority of the use of any investigational new animal drug (INAD) and any extralabel drug use where the use may lead to a discharge to waters of the United States.

- Reporting requirement for failure in or damage to the structure of an aquatic animal containment system, resulting in an unanticipated material discharge of pollutant to waters of the United States.
- Develop and maintain a best management practice (BMP) plan for solids control, material storage, structural maintenance, record keeping, and training.

As described earlier, the State Water Resources Control Board General Permit No. CAG990005, Order No. 2004-0009-DWQ (Aquatic Pesticides General Permit) regulates the discharge of certain aquatic pesticides as related to their application to surface waters for the control of aquatic weeds. This Order incorporates the requirements in the Aquatic Pesticides General Permit for the Discharger to develop and submit an Aquatic Pesticides Application Plan (APAP), as well as maintain and submit a pesticide application log.

Prior to using any new aquaculture drug or chemical, or aquatic pesticide at the Facility, the Discharger is required to submit to the Regional Water Board reporting and toxicity testing of the new aquaculture drug or chemical, or aquatic pesticide as specified in Section VI.C.2 of this Order. These reporting and toxicity testing requirements are needed for the Regional Water Board to determine if the discharge of a new drug or chemical by the Facility has reasonable potential to cause, or contribute to an in-stream excursion above any chemical-specific water quality criteria, narrative water quality objective for chemical constituents from the Basin Plan, or narrative water quality objective for toxicity from the Basin Plan.

3. Best Management Practices and Pollution Prevention

Best Management Practices plan requirements are established based on requirements in Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category at 40 CFR 451. CAAP facilities that are subject to the federal ELG are required to develop and maintain a BMP plan that address the following requirements: solids control, material storage, structural maintenance, record-keeping, and training. The Discharger must make the BMP plan available to the Regional Water Board upon request, and submit certification that the BMP plan has been developed.

4. Compliance Schedules – Not Applicable

5. Construction, Operation, and Maintenance Specifications

Solid waste disposal provisions in this Order are based on the requirements of CCR Title 27 and prevention of unauthorized discharge of solid wastes into waters of the United States or waters of the State. Other construction, operation, and maintenance specifications are to prevent other unauthorized discharges to waters of the United States or waters of the State.

The reasonable potential analysis (RPA) for discharges of Chloramine-T from the Facility were based on a maximum treatment of two raceways per day, as specified by the

Discharger. As a result, a provision in this Order is included which prohibits the treatment of more than two raceways (per day) with Chloramine-T.

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions – Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Lahontan Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Black Rock Fish Hatchery. As a step in the WDR adoption process, the Regional Water Board staff has developed proposed WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through publication in local newspapers.

B. Written Comments

Regional Board staff has solicited comments from the Discharger and interested parties. All comments received have been addressed.

C. Public Hearing

The Regional Water Board will hold a public hearing on the proposed WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **June 15, 2006**
Time: 8:30 a.m.
Location: The Village at Mammoth
1111 Forest Trail, Mammoth Lakes, CA 92546

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is <http://www.waterboards.ca.gov/lahontan/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, proposed effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address below at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (760) 241-6583.

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Dr, Suite 200
Victorville, CA 92392

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Mary Dellavalle at (760) 241-3523.

Attachment G – Basin Plan Water Quality Objective Tables

**Table 3-1
 ONE-HOUR AVERAGE CONCENTRATION FOR AMMONIA^{1,2}**

Waters Designated as COLD, COLD with SPWN, COLD with MIGR (Salmonids or other sensitive coldwater species present)

pH	Temperature, °C						
	0	5	10	15	20	25	30
Un-ionized Ammonia (mg/liter NH ₃)							
6.50	0.0091	0.0129	0.0182	0.026	0.036	0.036	0.036
6.75	0.0149	0.021	0.030	0.042	0.059	0.059	0.059
7.00	0.023	0.033	0.046	0.066	0.093	0.093	0.093
7.25	0.034	0.048	0.068	0.095	0.135	0.135	0.135
7.50	0.045	0.064	0.091	0.128	0.181	0.181	0.181
7.75	0.056	0.080	0.113	0.159	0.22	0.22	0.22
8.00	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.25	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.50	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.75	0.065	0.092	0.130	0.184	0.26	0.26	0.26
9.00	0.065	0.092	0.130	0.184	0.26	0.26	0.26
Total Ammonia (mg/liter NH ₃)							
6.50	35	33	31	30	29	20	14.3
6.75	32	30	28	27	27	18.6	13.2
7.00	28	28	25	24	23	16.4	11.6
7.25	23	22	20	19.7	19.2	13.4	9.5
7.50	17.4	16.3	15.5	14.9	14.6	10.2	7.3
7.75	12.2	11.4	10.9	10.5	10.3	7.2	5.2
8.00	8.0	7.5	7.1	6.9	6.8	4.8	3.5
8.25	4.5	4.2	4.1	4.0	3.9	2.8	2.1
8.50	2.6	2.4	2.3	2.3	2.3	1.71	1.28
8.75	1.47	1.40	1.37	1.38	1.42	1.07	0.83
9.00	0.86	0.83	0.83	0.86	0.91	0.72	0.58

1 To convert these values to mg/liter N, multiply by 0.822

2 Source: U. S. Environmental Protection Agency. 1986. Quality criteria for water, 1986. EPA 440/5-86-001.

Table 3-3
FOUR DAY AVERAGE CONCENTRATION FOR AMMONIA^{1,2}

Waters Designated as COLD, COLD with SPWN, COLD with MIGR (Salmonids or other sensitive coldwater species present)

	Temperature, °C						
pH	0	5	10	15	20	25	30
Un-ionized Ammonia (mg/liter NH ₃)							
6.50	0.0008	0.0011	0.0016	0.0022	0.0022	0.0022	0.0022
6.75	0.0014	0.0020	0.0028	0.0039	0.0039	0.0039	0.0039
7.00	0.0025	0.0035	0.0049	0.0070	0.0070	0.0070	0.0070
7.25	0.0044	0.0062	0.0088	0.0124	0.0124	0.0124	0.0124
7.50	0.0078	0.0111	0.0156	0.022	0.022	0.022	0.022
7.75	0.0129	0.0182	0.026	0.036	0.036	0.036	0.036
8.00	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
8.25	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
8.50	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
8.75	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
9.00	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
Total Ammonia (mg/liter NH ₃)							
6.50	3.0	2.8	2.7	2.5	1.76	1.23	0.87
6.75	3.0	2.8	2.7	2.6	1.76	1.23	0.87
7.00	3.0	2.8	2.7	2.6	1.76	1.23	0.87
7.25	3.0	2.8	2.7	2.6	1.77	1.24	0.88
7.50	3.0	2.8	2.7	2.6	1.78	1.25	0.89
7.75	2.8	2.6	2.5	2.4	1.66	1.17	0.84
8.00	1.82	1.70	1.62	1.57	1.10	0.78	0.56
8.25	1.03	0.97	0.93	0.90	0.64	0.46	0.33
8.50	0.58	0.55	0.53	0.53	0.38	0.28	0.21
8.75	0.34	0.32	0.31	0.31	0.23	0.173	0.135
9.00	0.195	0.189	0.189	0.195	0.148	0.116	0.094

1 To convert these values to mg/liter N, multiply by 0.822.

2 Source: U. S. Environmental Protection Agency. 1992. Revised tables for determining average freshwater ammonia concentrations. USEPA Office of Water Memorandum, July 30, 1992.

**Table 3-6
 WATER QUALITY CRITERIA FOR
 AMBIENT DISSOLVED OXYGEN CONCENTRATION^{1,2}**

	Beneficial Use Class			
	COLD & SPWN ³	COLD	WARM & SPWN ³	WARM
30 Day Mean	NA ⁴	6.5	NA	5.5
7 Day Mean	9.5 (6.5)	NA	6.0	NA
7 Day Mean Minimum	NA	5.0	NA	4.0
1 Day Minimum ^{5,6}	8.0 (5.0)	4.0	5.0	3.0

- ¹ From: USEPA. 1986. Ambient water quality criteria for dissolved oxygen. Values are in mg/L.
- ² These are water column concentrations recommended to achieve the required intergravel dissolved oxygen concentrations shown in parentheses. For species that have early life stages exposed directly to the water column (SPWN), the figures in parentheses apply.
- ³ Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching (SPWN).
- ⁴ NA (Not Applicable).
- ⁵ For highly manipulatable discharges, further restrictions apply.
- ⁶ All minima should be considered as instantaneous concentrations to be achieved at all times.

Where natural conditions alone create dissolved oxygen concentrations less than 110 percent of the applicable criteria means or minima or both, the minimum acceptable concentration is 90 percent of the natural concentration. (page 35: USEPA. 1986. Ambient Water Quality Criteria for Dissolved Oxygen.)

ATTACHMENT I – PROJECTED AQUACULTURE DRUG AND CHEMICAL USE

Drug or Chemical	Purpose of Application	Expected Method(s) of Application or Treatment
Acetic acid.	Control of external parasites.	(1) <i>Flush</i> : 1.5 to 2.2 gallons of glacial acetic acid added as a bolus to top of raceway. Gives a treatment of level of approximately 335 to 500 ppm acetic acid. (2) <i>Bath</i> : used at a rate of 500 to 2,000 ppm for 1 to 10 minutes.
Amoxicillin trihydrate.	Control and prevention of external and systemic bacteria infections.	<i>Injected intraperitoneally</i> : into broodstock twice a week, prior to spawning, at a rate of 40 milligrams amoxicillin per kilogram of fish.
Carbon Dioxide.	Anesthetic.	<i>Bath</i> : bubbled in water. Usually used in small volumes of water.
Chloramine-T.	Control of external gill bacteria.	(1) <i>Flush^a</i> : used at a concentration of 10 ppm for one hour. (2) <i>Bath</i> : used at a concentration of 10 ppm for one hour.
Copper sulfate pentahydrate.	Control of external parasites and bacteria.	<i>Flush</i> : used at a rate of up to 0.5 pounds of copper sulfate pentahydrate per cfs of raceway flow.
Erythromycin.	Control and prevention of external and systemic bacteria infections.	(1) <i>Injected intraperitoneally</i> : at a rate of 40 milligrams erythromycin per kilogram of fish, at 30 day intervals. (2) <i>Feed</i> : used in medicated feed or fish pills at a rate of 100 milligrams or less of erythromycin per kilogram of fish.
Florfenicol (Nuflor®).	Control and prevention of external and systemic bacteria infections.	<i>Feed</i> : mixed with vegetable oil and sprayed onto fish pills. Fish pills are fed to fish as feed at a rate of 15 milligrams of florfenicol per kilogram of fish per day, split into morning and afternoon feedings.
Formalin (37% formaldehyde solution).	(1) Control of external parasites. (2) Fungus control on fish eggs.	(1) <i>Flush</i> : Low dose - used at a concentration of 25 ppm of formalin for 8 hours. High dose - used at a concentration of 167 to 250 ppm formalin for one hour. (2) <i>Bath</i> : used at a concentration of 2,000 ppm formalin, or less, for 15 minutes.
Hydrogen peroxide.	Control of external parasites.	<i>Flush</i> : used at a rate of 100 ppm, or less, for 45 minutes to 1 hour.
Isoeugenol (Aqui-S®)	Anesthetic.	<i>Bath</i> : (a) 5 to 10 ppm for sedation. (b) 17 to 25 ppm for “handleable” fish in approximately 3 to 5 minutes and full anesthesia in approximately 10 minutes. (c) 34 ppm for full anesthesia in approximately 5 minutes.
MS-222 / tricaine methanesulfonate (Finquel®, Tricaine-S®).	Anesthetic.	<i>Bath</i> : used at a rate of 50 to 250 mg/L, usually in a small volume of water.
Oxytetracycline HCl (Terramycin®).	Control and prevention of external and systemic bacteria infections.	(1) <i>Bath</i> : used in tanks for six to eight hours at a concentration of 100 ppm or less. (2) <i>Feed</i> : fed at a rate of 3.75 grams of oxytetracycline per 100 pounds of fish per day.
Penicillin G potassium.	Control and prevention of external and systemic bacteria infections.	<i>Bath</i> : used in tanks for six to eight hours at a concentration of 150 IU/ml (500,000,000 IU/311.8 gm. Packet).

^a This Order prohibits Chloramine-T treatments in more than 2 raceways per day.

Drug or Chemical	Purpose of Application	Expected Method(s) of Application or Treatment
Potassium permanganate (Cairox™).	Control of external parasites and bacteria.	(1) <i>Flush</i> : used at a rate of 2 ounces per cfs of raceway flow, poured in all at once, for a total of 3 treatments, spaced 10 to 15 minutes apart (2.32 ppm for a 45 minute treatment, 3.48 ppm for a 30 minute treatment). (2) <i>Bath</i> : used at a rate of 2 ppm, or less, for one hour.
PVP Iodine	Disinfect and control diseases on fish eggs.	<i>Bath</i> : used at a concentration of 100 mg/L for 10 to 30 minutes.
Sodium bicarbonate.	Anesthetic.	<i>Bath</i> : used at a rate of 142 to 642 mg/L, usually in a small volume of water.
Sodium chloride (salt).	Fish cleansing, disease control, and stress reduction.	<i>Flush</i> : used at a rate of 150 to 700 pounds of salt per cfs of raceway flow.
Sulfadimethoxine-ormetoprim (Romet-30®).	Control and prevention of external and systemic bacteria infections.	<i>Feed</i> : used at a rate of 50 milligrams of drug per kilogram of fish per day.

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ATTACHMENT J – DRUG AND CHEMICAL USAGE REPORT TABLE

Quarterly Drug and Chemical Use Report

Facility Name:
 Quarter/Year:

Name of Drug or Chemical, and Active Ingredient	Date(s) of Application	Location and Purpose of Application	Method of Application or Treatment	Duration of Treatment	Static or Flush Treatment	Total Amount Applied	Flow in Treatment Unit (cfs)	Total Facility Flow (cfs)	Method of Disposal for Used Drug or Chemical
EXAMPLE: Terramycin, active ingredient oxytetracycline	4/15/05 to 4/25/05	Raceways A, B, C. Treatment for pseudomonas disease.	As additive through feed.	10 days	Not Applicable	5000 pounds of feed total @ 2.5 g/lb formulation (grams of oxytetracycline/ pound of feed) = 12,500 grams oxytetracycline	4 cfs	25 cfs	Minimal amount of uneaten feed discharged via Discharge Point 001.
EXAMPLE: Cairox, active ingredient Potassium permanganate	8/21/05	Raceways B, D. Treatment for bacterial gill disease.	Added directly to water in raceways.	1 hour	Flush	3 grams per raceway = 3 x 2 = 6 grams total	4 cfs	22 cfs	Discharged via Discharge Point 001.
EXAMPLE: Salt, active ingredient sodium chloride	9/1/05 to 9/4/05	Raceways A, B, C, D. osmoregulatory aid for the relief of stress and prevention of shock	Added directly to water in raceways.	3 days	Flush	200 pounds per raceway per day = 200 x 4 x 3 = 2400 pounds total	5 cfs	28 cfs	Discharged via Discharge Point 001.

Quarterly Drug and Chemical Use Report

Facility Name:
 Quarter/Year:

Name of Drug or Chemical, and Active Ingredient	Date(s) of Application	Location and Purpose of Application	Method of Application or Treatment	Duration of Treatment	Static or Flush Treatment	Total Amount Applied	Flow in Treatment Unit (cfs)	Total Facility Flow (cfs)	Method of Disposal for Used Drug or Chemical

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ATTACHMENT K – SELF-MONITORING REPORT (SMR) FORMS

a) Brief Description of Violation:

**b) Section(s) of WDRs/NPDES
Permit Violated:**

c) Reported Value(s) or Volume:

**d) WDRs/NPDES
Limit/Condition:**

**e) Date(s) and Duration of
Violation(s):**

f) Explanation of Cause(s):

g) Corrective Action(s)
(Specify actions taken and a schedule
for actions to be taken)

MONITORING LOCATION:

MONTH:

YEAR:

PARAMETER:					
SAMPLING FREQUENCY:					
SAMPLE TYPE:					
UNITS:					
LIMITS	MONTHLY AVG.				
	DAILY MAX.				
	MINIMUM				
	MAXIMUM				
DATE OF SAMPLE:	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
	13				
	14				
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	21				
	22				
	23				
	24				
	25				
	26				
	27				
	28				
	29				
	30				
	31				
MONTHLY AVG.					
DAILY MAX.					
MINIMUM					
MAXIMUM					

MONITORING LOCATION:

QUARTER AND/OR YEAR:

PARAMETER:						
SAMPLING FREQUENCY:						
SAMPLE TYPE:						
UNITS:						
LIMITS	MONTHLY AVG.					
	DAILY MAX.					
	MINIMUM					
	MAXIMUM					
Month and Date of Sampling						
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						
MONTHLY AVG.						
DAILY MAX.						
MINIMUM						
MAXIMUM						

RECEIVING WATER MONITORING: VISUAL CONDITIONS

MONITORING LOCATION: _____ **MONTH OR QUARTER:** _____ **YEAR:** _____

- | | | |
|---|------------|-----------|
| 1. Is floating or suspended matter present? | Yes | No |
| 2. Is discoloration present? | Yes | No |
| 3. Is a visible film, sheen or coating present? | Yes | No |
| 4. Are bottom deposits present? | Yes | No |
| 5. Are potential nuisance conditions present? | Yes | No |
| 6. Is aquatic life present? | Yes | No |
| 7. Are algae, fungi, slimes, or other aquatic vegetation present? | Yes | No |

Any additional comments.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or require additional information, please contact _____ at the number provided above.

Signature: _____

Date: _____

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ATTACHMENT L – AQUATIC PESTICIDE APPLICATION LOG

Quarterly Aquatic Pesticide Application Log

Facility Name:
 Quarter/Year:

Name of Aquatic Herbicide	Date of Application	Start and End Time of Application	Location and Purpose of Application	Aquatic Pesticide Application Rate and Concentration	Water Temp (°F)	Flow in Treatment Area (cfs)	Total Facility Flow (cfs)	Name of Applicator	APAP Certification